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January 29, 2001

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Arizona Corporation Commission  
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Arizona Corporation Commission  
1200 West Washington Street  
Phoenix, Arizona 85007

Re: Docket No. T-00000A-97-0238

To the Commission:

Enclosed for filing with the Arizona Corporation Commission, please find an original and fifteen (15) copies of Comments on Remaining Issues Regarding the Performance Plan in Arizona in conjunction with the above-referenced proceeding. The attached documents include a modified version of the Qwest Performance Assurance Plan ("PAP") including a red-lined copy of the document (as requested by Commission staff).

Please date-stamp the additional copy, and return it to me in the enclosed self-addressed, stamped envelope.

Respectfully submitted,

Michael B. Hazzard  
Counsel to Z-Tel Telecommunications, Inc.

Attachments

cc: Service List

## Comments on Remaining Issues Regarding the Performance Plan in Arizona

George S. Ford, Z-Tel Communications

The purpose of this document is to respond to the "Open Issues" list created after the December 18 and 19 PAP workshops, particularly those issues to which Z-Tel was assigned. Where relevant, the responses contained herein are supported by spreadsheets (including all formulas used therein) for review and validation. In some cases, the Modified Qwest Proposal (submitted by Z-Tel earlier in this proceeding) has been altered in an attempt to reach consensus with Qwest on particular issues. A new version of the Modified Qwest Proposal is provided (Exhibit 2). A redlined version is also provided as part of this filing (Exhibit 3).

The Commission requested responses from Z-Tel on the following issues:

- PAP-3 Six months review in Texas has led to changes in the SBC PAP.
- PAP-4 Appropriateness of the K-table.
- PAP-5 Dispute concerning use of cap for penalties.
- PAP-6 Other proposed PAP changes:
  - Unused monthly cap should roll forward
  - There should be a minimum per occurrence penalty.
  - Penalties for repeat monthly occurrences should be accelerated.
  - There should be direct payment to CLEC in lieu of bill credits.
- PAP-8 What would penalty results be if a simulation using Qwest performance data were run?
- PAP-10 Is a severity factor needed? How should it apply to the proposed plan?
- PAP-12 Tier 2 payments. WorldCom and Z-Tel oppose Qwest's Tier 2 proposal.
- PAP-13 Should penalties fall back to their original amount after 2 months of compliance? Should repeated occurrences cause fall backs to escalate to higher levels?

I will address each issue in turn, pointing to the exhibits when necessary.

### Response to PAP-3:

PAP-3 inquires about the appropriate trigger for a "root cause analysis." After the six-month review in Texas, a two-consecutive month standard was adopted for root cause analysis. While accepting all other modifications to the Texas Plan implemented after the six-month review, Qwest has not incorporated the two-consecutive month standard into its plan. Generally, deviations from the Texas Plan are not *per se* undesirable. For example, Qwest rejected the Texas Plan's treatment of benchmark measures, recognizing the inherent flaw in the Texas approach. Given the wealth of other flaws with the Texas Plan, doing things differently in Arizona is not problematic.

Regardless of the features of the Texas Plan, repeated (or severe) failure seems to be a reasonable trigger for further investigation in the form of a root cause analysis. The exact specification of such a trigger is a judgment call. As long as all the parties agree that root cause



analysis can be triggered, the Commission should be able to weigh the various positions and establish a reasonable trigger. I propose that a root cause analysis be performed for any measure that misses three consecutive months (at any level) or two consecutive months at a mean difference of 25% or above. While it is possible to construct more complicated triggers to deal with failures that are persistent, but not consecutive, it is impossible to specify, *ex ante*, all conditions under which a root cause analysis is warranted. Thus, the Commission should establish formally its right to initiate a root cause analysis under circumstances it deems warrant further investigation.

#### **Response to PAP-4**

The debate over the K-Table was not new to the December workshop. I have provided all parties to this proceeding evidence that the K-Table in the Qwest proposal is computed incorrectly. My spreadsheet is available on the internet ([www.egroupassociates.com](http://www.egroupassociates.com)) (and is filed here as Exhibit 4) and all formulas used are contained therein. The purported purpose of the K-Table's is to adjust the critical z-score and K value so that the cumulative binomial distribution is 0.95 (which is interpreted as a 5% significance level). If the cumulative distribution is computed from the numbers contained in Qwest's proposed K-Table, the 0.95 level is not attained.

A more serious problem with the Qwest K-Table is that it is conceptually invalid. For example, assume the significance level of the mean difference test is 5% (which is the case in the Qwest Plan). If 100 statistical tests are performed, five of these test will, on average, fail due to Type I error alone (a false positive). That is true only if all 100 tests are, in fact, in parity. Thus, the appropriate number of excluded failures should be five tests, not the 8 proposed by the Qwest K-Table. Using the Qwest K-Table will overstate the number of Type I errors (and thus exclusions) by 47%, on average. The fact that the K-Table overstates the expected (or average) number of Type I errors is undisputable on statistical grounds.

The K-Table, if computed correctly, is more suitable to testing whether or not the null hypothesis that all measures are in parity than it is in determining the appropriate number of exclusions. For example, the K value for 100 measures, determined from the binomial distribution with a 5% probability of success and a cumulative distribution of 95%, is 9 tests.<sup>1</sup> Note that the expected (or average) number of Type I failures is not 9 tests. Rather, the correct interpretation of the K value is that more than 9 tests will fail due to Type I error less than 5% of the time. Thus, if 10 tests are failed, then we can be better than 95% confident that the null hypothesis of parity for all measures is invalid (we reject the null). If the null hypothesis of parity is rejected, then a true means difference does exist and Type II error comes into play. Note that if a means difference does exist, then there is no Type I error.

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<sup>1</sup> The actual cumulative distribution will be less than 5% due to the integer problem.



Z-Tel, in this filing, submits to the Commission the Balanced Exclusion Table (Exhibit 1, Spreadsheet Exhibit 1, and applied in Exhibit 2). The Balanced Exclusion Table computes the appropriate number of exclusions given Qwest, per month, for Type I error. The Balanced Exclusions Table employs the "K-Table" as a test of the parity hypothesis and considers both Type I and Type II error. This table is summarized and described in Exhibit 1. The Balanced Exclusion Table provides Qwest with exclusions equal to the expected number of Type I failures (i.e., 5% of the tests performed) if the parity hypothesis that all measures are in parity cannot be rejected. If the null hypothesis of all measures in parity is rejected, then the number of exclusions is adjusted (downward) for Type II error. Adjusting for Type II error requires that sample size be considered and the Balanced Exclusion Table does so.<sup>2</sup> In a simple specification of the Balanced Exclusion Table, the table can be replaced with simple (formulaic) rules for computing exclusions.<sup>3</sup> Further, a single critical value is used (1.65) rather than multiple critical values, as Qwest's K-Table requires. The single critical value and the decision to always round up increases the number of exclusions provided Qwest.

### Response to PAP-5

Conceptually, a cap on remedy payments is undesirable. Once the cap is reached, there is no counterbalance to Qwest's incentive to discriminate against CLECs. A procedural cap, however, is much less problematic in that anticompetitive incentives continue to be addressed during a procedural review of Qwest's performance. Z-Tel supports a procedural cap of 44% of net revenue, or \$114 million for Qwest-AZ.

Under the Texas Plan, increasing the cap has little impact because it is nearly impossible for the cap to be reached, even under widespread failure. For example, using the Performance Plan Simulator, it can be shown that if all measures are "non-conforming" (at a z-score of 2.00), Southwestern Bell must process about 232 million Tier 1 transactions in a given month to reach its monthly cap for the state of Texas (about \$24 million).<sup>4</sup>

The extremely low prospects for cap-level remedies in Texas are supported by actual data from Texas. For Tier 2 (aggregate CLEC data), the average payment per percentage point of failure was about \$12,000 during September, October, and November.<sup>5</sup> Thus, if 100% of measures

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<sup>2</sup> Type II error is computed based on the observed performance of SBC Texas on the aggregate CLEC data.

<sup>3</sup> See the Z-Tel Performance Plan Simulator for an application of the Balanced Exclusion Table.

<sup>4</sup> The assumptions for the Plan Simulator include a) all penalties are at the "first month" level; b) the z-score failure is 2.00; c) the distribution factor is 1; d) sample size ranges from 30 to 730,000; and e) 100% failure of 636 measures. Even if the duration penalties were at their maximum value (6 months of repeated failure), about 14 million orders are required to reach the monthly cap (assuming that no cap has rolled forward).

<sup>5</sup> For Texas performance statistics, see SBC's *Ex Parte* Submission, Texas 1.7 HOMR, Docket No. 00-217 (December 21, 2000). The *Ex Parte* can be downloaded at [https://net.sbc.com/PublicAffairs/LongDistance/TX\\_1.7\\_HOMR.pdf](https://net.sbc.com/PublicAffairs/LongDistance/TX_1.7_HOMR.pdf) and the "Tier 1 and Tier 2 Liquidated Damages" table is available at <https://clec.sbc.com>.



failed, the total Tier 2 remedy payment would be \$1,200,000. During this time period, Tier 2 payments were roughly 41% of total payments, suggesting that 100% failure at current failure and penalty levels would produce a total penalty (Tier 1 and Tier 2) of about \$2,900,000, or about 12% of the total (unrolled) monthly cap in Texas.<sup>6</sup>

If the unmodified Texas Plan were applied to Qwest in Arizona, the monthly cap of \$9.5 million (\$114 million annually at 44% of net revenue) would be reached if Qwest processed about 71 million transactions per month.<sup>7</sup> Qwest has incorporated improvements in its Plan relative to the Texas Plan, so the number of orders will be lower than for the (unmodified) Texas Plan.

### **Response to PAP-6**

A number of issues are covered under PAP-6. I will respond to each in order.

First, if an absolute cap is used, the unused monthly cap should “roll forward.” Absolute caps are, as described above, undesirable. By rolling forward the unused caps, the perverse incentives created by the cap are partially offset.

Z-Tel has proposed that minimum penalty be applied to per-occurrence measures. Due to the nature of per-occurrence calculations, small sample sizes produce small penalties regardless of the actual consequences of the discrimination. For example, if Z-Tel submits 50 test orders and all receive poor performance, Z-Tel likely would slow its process of entry until service quality improved. This delay in the development of competition has important financial consequences for both Z-Tel and consumers. The penalty for 50 “occurrences” is a pittance relative to the retained profits and consumer surplus consequences of the discrimination.

Z-Tel originally proposed a minimum penalty amount of \$5,000 regardless of CLEC sample size. In the spirit of compromise, Z-Tel offers to lower the minimum penalty to \$2,500 for measures with fewer than 100 orders (on a CLEC-by-CLEC basis). Duration and severity factors, discussed next, will counter any weakening of incentives provided by this reduction in the proposed minimum penalty.

Both the Qwest Plan and the Modified Qwest Plan accelerate penalties for repeated failures. There is no dispute that this acceleration is appropriate. While the Qwest Plan presents penalty levels that increase with duration, the Modified Qwest Plan provided factors that apply to a base penalty amount. These two approaches are alternative specifications of the same thing; the practical effect of both approaches is identical.<sup>8</sup> There are two meaningful differences between the Qwest and Modified-Qwest Plan on the issue of duration penalties. First, the Qwest Plan

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<sup>6</sup> Total payments are estimated by \$1,200,000/0.41.

<sup>7</sup> Using the same assumptions for the Plan Simulator as in the Texas example.

<sup>8</sup> The implicit factors of the Qwest Plan easily are computed, as are the implicit penalties of the Modified Qwest Plan.



stops the acceleration at six-months. Qwest has provided no explanation for this peculiar feature of their plan except that the Texas Plan does so. As a practical matter, if the six-month penalty is not sufficient to halt discrimination in month seven, then the penalty is still too low and further acceleration is warranted. Second, the two plans differ in that the Modified Qwest Plan has 'sticky' duration penalties. In other words, after a duration penalty is applied for a second time, the penalty amount is not returned to the initial level. Repeated failure is a good indicator that the initial penalty level was too low and needs to be permanently increased to induce compliance.

Finally, Z-Tel has proposed that direct payment to CLECs be used in lieu of bill credits. Direct payment is easier to handle and does not create perverse incentives for Qwest as do bill credits. Virtually every CLEC prefers direct payment to bill credits and Qwest has yet to present (to my knowledge) any valid reason to use bill credits. Furthermore, if bill credits are used, two entire payment systems must be designed, implemented, and administered because direct payment is required for Tier 2 payments and for any payments that exceed the CLEC's bill. The transparency of direct payment to Qwest's management also is desirable in that it may serve as a better motivator to improve service than will bill credits. Finally, Z-Tel's experience is that ILEC bills are highly inaccurate. Resolving billing disputes is complicated enough; the process does not need to be further complicated by incorporating remedy payments into the monthly bills.

#### **Response to PAP-8**

I have developed a performance plan simulator that is capable of evaluating the impact on penalties of various aspects of the plan. The simulator is available on the Internet ([www.egroupassociates.com](http://www.egroupassociates.com)) and is submitted in this filing (Exhibit 5). Most of the remaining differences between the Qwest and Modified Qwest Plan can be analyzed using the simulator.

#### **Response to PAP-10**

The Zone Parity and Modified Qwest Plans both contain severity factors and a discussion of why such factors are needed. Put simply, providing a customer marginally bad service is much different than providing that customer very bad service. Larger deviations from parity can be expected to have more serious implications on a per-occurrence basis than smaller deviations. Additionally, if the initial penalty is set too low, the severity factors keep discrimination in check by raising the penalty for larger levels of disparity.

At small differences between ILEC and CLEC performance, the severity factors are irrelevant. It is only when the differences get very large that the factors begin to influence the penalty level. If the initial penalty levels proposed by Qwest are sufficiently large to induce compliance, as Qwest claims, then the severity factors should be of no significance to the company. Only when CLEC service quality levels are expected to fall well below the service Qwest provides to itself should Qwest be concerned with the use of severity factors.



Somewhat related to this issue is that the Qwest Plan truncates the total penalty paid to CLECs for a given measure at a 100% of the means difference. Clearly, a 500% difference between means is not equivalent to a 100% difference in means. However, the Qwest Plan requires no more penalties be paid for a 500% difference than it does a 100% difference. The claim that "occurrences" cannot exceed orders is unconvincing. The per-occurrence calculation scheme in the Qwest Plan (and the Modified Qwest Plan) does not count the number of "occurrences" of discrimination. Rather, the procedure simply calculates the percent difference between means and then scales that by the order count.<sup>9</sup> At a minimum, the percent difference between ILEC and CLEC means should be unbounded so that differences exceeding 100% are not ignored.

One compromise position Z-Tel would find acceptable is to unbound the means differences (so that differences can exceed 100%) and apply the severity factors *only* to duration penalties. In other words, as long as a measure is not missed repeatedly, the severity factors do not apply. This proposal, of course, presumes that the duration factors are "sticky." Severity factors would not apply to any base penalty, whether or not that base penalty is the result of a "sticky" duration factor.

#### **Response to PAP-12**

The Tier 2 portion of the Modified Qwest Plan proposes that Tier 2 be conducted in the same manner as Tier 1 except that the aggregate CLEC data is used and all payments go to a state fund of some sort. To date, Qwest has not provided any explanation for why particular measures should be treated differently in Tiers 1 and 2. It seems apparent that measures believed to have a "High" influence on a CLEC's ability to offer service likewise should have a "High" impact on CLECs as a whole. While there may be reasons for excluding particular measures from Tier 2, these reasons should be stated explicitly for review by interested parties. Until Qwest provides explanations for excluding measures, Z-Tel's position is that all measures should be included in Tier 2. Z-Tel is open, however, to discussion about why particular measures should be excluded.

#### **Response to PAP-13**

Both the Modified Qwest Plan and the Zone Parity Plan propose "sticky" duration penalties. Common to all plans, duration penalties are required because repeated poor performance indicates that the base penalty level was insufficient to incent the ILEC to provide compliant service. For example, if the ILEC benefits \$100 from an act of discrimination, then a \$50 penalty will insure that discrimination occurs because the net benefit of the discriminatory act is positive (\$50 to be exact). If the penalty is increased to \$100, then the ILEC's net benefit from discrimination is zero and compliant service is expected. If the duration penalty of \$100 is

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<sup>9</sup> For example, assume the ILEC provides to all of its customers at a one day interval. For the CLEC, half of the orders get one day service while the other half get three day service. The mean level of service for the CLEC is twice that of the ILEC (100% difference), but only one-half of the CLEC's customers received "discriminatory service." Zone Parity is the only proposed plan that remotely computes the true number of "mean shifting" observations.



effective, but \$50 is not, why then would the penalty be returned to its initial level of \$50? Returning the penalty to a level known to be ineffective is illogical.

The Modified Qwest Plan allows for the return to the base penalty after compliance during the first experience of repeated violations. If the duration factors are invoked a second time, however, the Modified Qwest Plan resets the base penalty to the highest duration penalty paid. After all, it is that highest duration penalty that achieved compliance.

It is unlikely that the arbitrary penalty levels established by the Qwest Plan will equal the effective level for all 600 or so measures. In fact, divine intervention is required to know, ex ante, the effective penalty levels for each measure and even each CLEC. With sticky duration factors or penalties, the choice of initial or base penalties need not be perfect. Over time, the effective penalty level will be reached. Of course, without sticky duration factors, the penalty levels will migrate back-and-forth between effective and ineffective levels. Instability in effectiveness is not a characteristic of a well-designed performance plan.

Recognizing that the incentives of the ILEC may change over time, at some future date the base penalties inflated by duration factors may be reduced slowly. For example, penalties might be reduced 10% per month to the initial base penalty unless, of course, non-compliance is experienced during this process. However, the Commission must be careful to not provide the ILEC a motivation to game the system by resetting the penalties. This type of gaming is more likely for penalties that have, over time, become substantially larger than the initial base penalty.





## **EXHIBIT 1**

Balanced Exclusion Table					
T = Number of Statistical Tests Performed (excluding benchmarks).					
F = Number of Observed Test Failures ( $z > 1.65$ )					
N = Average CLEC Sample Size for All Metrics or Potentially Excluded Metrics					
Number of Tests	Parity-Null Critical Value	Expected Type I Failures	Exclusions		
T	K	$\alpha T$	F < K	F > K	
				N ≤ 1,450	N > 1,450
10	2	0	0	0	0
20	3	1	1	0	1 x (1 - F/T)
30	4	1	1	0	1 x (1 - F/T)
40	4	2	2	0	2 x (1 - F/T)
50	5	2	2	0	2 x (1 - F/T)
60	6	3	3	0	3 x (1 - F/T)
70	7	3	3	0	3 x (1 - F/T)
80	7	4	4	0	4 x (1 - F/T)
90	8	4	4	0	4 x (1 - F/T)
100	9	5	5	0	5 x (1 - F/T)
110	9	5	5	0	5 x (1 - F/T)
120	10	6	6	0	6 x (1 - F/T)
130	11	6	6	0	6 x (1 - F/T)
140	11	7	7	0	7 x (1 - F/T)
150	12	7	7	0	7 x (1 - F/T)
160	13	8	8	0	8 x (1 - F/T)
170	13	8	8	0	8 x (1 - F/T)
180	14	9	9	0	9 x (1 - F/T)
190	15	9	9	0	9 x (1 - F/T)
200	15	10	10	0	10 x (1 - F/T)
250	18	12	12	0	12 x (1 - F/T)
300	21	15	15	0	15 x (1 - F/T)
350	24	17	17	0	17 x (1 - F/T)
400	27	20	20	0	20 x (1 - F/T)
450	30	22	22	0	22 x (1 - F/T)
500	33	25	25	0	25 x (1 - F/T)
550	36	27	27	0	27 x (1 - F/T)
600	39	30	30	0	30 x (1 - F/T)
650	42	32	32	0	32 x (1 - F/T)
700	45	35	35	0	35 x (1 - F/T)
750	48	37	37	0	37 x (1 - F/T)
800	50	40	40	0	40 x (1 - F/T)
900	56	45	45	0	45 x (1 - F/T)
1000	62	50	50	0	50 x (1 - F/T)



## **EXHIBIT 2**

## **THE MODIFIED QWEST ARIZONA PERFORMANCE ASSURANCE PLAN**

### **1.0 Introduction**

In conjunction with its applications to State Commissions for approval under Section 271 of the Telecommunications Act of 1996 (the "Act") to offer in-region long distance service, Qwest Corporation ("Qwest") proposes the following Performance Assurance Plan ("PAP"). Qwest is committed to continued compliance with its Section 271 obligations. As proof of that commitment, Qwest is prepared to voluntarily enter into a monitoring and enforcement mechanism, as outlined below, as a demonstration of its commitment to continue to satisfy Section 251 of the Act.<sup>1</sup>

The Qwest PAP mirrors the performance assurance plan approved by the Federal Communications Commission ("FCC") for Southwest Bell Telephone Company-Texas, but remedies a number of shortcomings in the Texas Plan and incorporates numerous improvements.<sup>2</sup> Qwest believes that controversy can be avoided and the resources of the State Commissions and the Company can be best utilized by avoiding a drawn out process of creating a performance assurance plan from scratch. Therefore, Qwest has taken the extraordinary step of duplicating key elements of the approved Texas plan and adjustment the plan where necessary to remedy flaws and improve the plan's effectiveness.

The FCC has recognized that performance assurance plans may vary widely from state to state, but that the key elements of any plan should fall within a "zone of reasonableness" such that the plans provide incentives sufficient to foster on-going satisfaction of 271 requirements.<sup>3</sup> Rather than "reinvent" key elements, the Qwest PAP adopts the basic principles of the Texas enforcement plan structure, including its statistical test, payment computation, and initial payment levels. Furthermore, the Qwest PAP puts at risk 44% of the Company's "net revenues" derived from local exchange services.

### **2.0 Plan Structure**

The Qwest PAP is a two-tiered, self-executing remedy plan. The plan is developed to provide individual CLECs with Tier-1 payments if Qwest does not provide parity between the service it provides to the CLEC and that which it provides to its retail customers, or if Qwest fails to meet applicable benchmarks. In addition, the PAP provides Qwest with additional incentives to satisfy parity and benchmark standards by requiring Qwest to make Tier-2 payments--payments to State Funds established by the State Commissions--if Qwest fails to meet parity and benchmark

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<sup>1</sup> Specifically, the enforcement plan is intended to satisfy Sections 251(c)(2)(C) and 251(c)(3) of the Act.

<sup>2</sup> *In the Matter of the Application by SBC Communications, Inc.*, CC Docket No. 00-65, Memorandum Opinion and Order, June 30, 2000.

<sup>3</sup> *Id.*, para. 423.

standards on an aggregate CLEC basis. Tier-2 payments are over and above the Tier-1 payments made to individual CLECs.

In the Qwest PAP, performance measurements are given different weightings to reflect relative importance by the designations of High, Medium, and Low. Payment is generally on a per occurrence basis, i.e., a set dollar payment times the number of non-conforming service events. For the performance measurements which do not lend themselves to per occurrence payment, payment is on a per measurement basis, i.e., a set dollar payment. The level of payment also depends upon both the severity and duration of non-conforming performance, i.e., the payments are increased with larger deviations from parity in a single month and repeated failures across months.

The parity standard is met when the service Qwest provides to CLECs is equivalent to that which it provides to its retail customers. Statistically, parity exists when performance results for the CLEC and for the Qwest retail analogue result in a Z-value that is no greater than the 1.65 (a 5% significance level).<sup>4</sup> The Qwest PAP employs the Balanced Exclusion Table in order to adjust payments for Type I and Type II errors.

For performance measurements that have no Qwest retail analogue, agreed upon benchmarks are used. Benchmarks are evaluated using a "stare and compare" method. For example, if the benchmark is 95% or better, Qwest performance results must be at least 95% to meet the benchmark. When sample sizes are less than 100, percentage benchmark values will be adjusted to round the allowable number of misses to the next higher integer. For example, in the event of a 95% benchmark, the number of misses is 5% times the sample size, rounded up to the nearest integer. Benchmark measures are not included for purposes of the Balanced Exclusion Table.

### **3.0 Performance Measurements**

The Qwest PAP incorporates performance measurements that will ensure Qwest's service performance to competitors can be measured and monitored so that any degradation of the agreed upon level of service is detected and corrected. CLECs operating in Qwest's region offer services through several modes, including resale, interconnection, and the purchase of unbundled network elements. The performance measurements incorporated into the Qwest PAP are broad based enough to cover all the modes of entry.

Performance measurements have been developed in the 271 collaborative workshops. Each of the measurements have been given a precise definition, called a Performance Indicator Definition ("PID"), that includes specification of the unit of measure, the data to be utilized in the measurement, and the standard. The standard may be a parity comparison of CLEC service performance with the Qwest retail analogue. When no retail analogue exists, the standard is a

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<sup>4</sup> The standard Z-test is based on normal statistical theory. If the sample size is large enough, the sample mean will follow a known normal distribution that is dependent on the variance of the data and on the sample size. A sample size of 30 is generally considered sufficient, although the required minimum sample size is dependent on the statistical skewness of the data being sampled. The assumption of a normal distribution is what allows the Z-test. When the sample size becomes too small, the distribution of the sample mean is no longer normal and the Z-test may not be reliable. In that event, other methods, as described below, may be appropriate.

benchmark. The PIDs have been agreed to among Qwest, the CLECs, and participating State Commission staff members.

The performance measurements incorporated into the Qwest PAP are shown in Attachment 1. Similar to the approved Texas plan, the measurements are designated as Tier-1, Tier-2, or both Tier-1 and Tier-2. The measurements are also given a High, Medium, or Low designation, reflective of relative importance. Of the TBD measurements that the parties have agreed to in the ROC PID workshops, Qwest incorporates TBD of the measurements into the PAP.<sup>5</sup>

#### **4.0 Statistical Measurement**

Qwest proposes the use of a statistical test, namely the modified “Z-test,” for evaluating the difference between two means (i.e., Qwest and CLEC service or repair intervals) or two percentages (e.g., Qwest and CLEC proportions), to determine whether a parity condition exists between the results for Qwest and the CLEC(s). The modified Z-tests are applicable if the number of data points are greater than 30 for a given measurement. For testing measurements for which the number of data points are 30 or less, Qwest may use a permutation test to determine the statistical significance of the difference between Qwest and CLEC(s).

Qwest will be in conformance when the monthly performance results for parity measurements (whether in the form of means, percents, or proportions and at the equivalent level of disaggregation) are such that the calculated Z test statistics are not greater than 1.65. Qwest will be in conformance with benchmark measurements when the monthly performance result equals or exceeds the benchmark if a higher value means better performance, and when the monthly performance result equals or is less than the benchmark if a lower value means better performance.

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<sup>5</sup> Of the 20 PIDs not included in Qwest’s PAP, 14 are diagnostic or parity by design. As such, it is not appropriate to include them in a performance assurance plan. The remaining 6 measurements are not included because they were not requested by the CLECs in the Arizona 271 performance assurance workshops that are underway or are duplicative of other measurements that are included.

The following is the formula for determining parity using the Z test:

$$z = \text{DIFF} / \sigma_{\text{DIFF}}$$

Where:

$$\text{DIFF} = M_{\text{Qwest}} - M_{\text{CLEC}}$$

$$M_{\text{QWEST}} = \text{Qwest average or proportion}$$

$$M_{\text{CLEC}} = \text{CLEC average or proportion}$$

$$\sigma_{\text{DIFF}} = \text{SQRT} [\sigma^2_{\text{Qwest}} (1/n_{\text{CLEC}} + 1/n_{\text{Qwest}})]$$

$$\sigma^2_{\text{Qwest}} = \text{Calculated variance for Qwest}$$

$$n_{\text{Qwest}} = \text{number of observations or samples used in Qwest measurement}$$

$$n_{\text{CLEC}} = \text{number of observations or samples used in CLEC measurement}$$

The Z tests will be applied to reported parity measurements that contain more than 30 data points.

In calculating the difference between Qwest and CLEC performance, the above formulae apply when a larger Qwest value indicates a better level of performance. In cases where a smaller Qwest value indicates a higher level of performance, the order is reversed, i.e.,  $M_{\text{CLEC}} - M_{\text{QWEST}}$ .

For parity measurements where the performance delivered to CLEC(s) is compared to Qwest performance and for which the number of data points is 30 or less, Qwest will apply a permutation test to test for statistical significance. Permutation analysis will be applied to calculate the z statistic using the following logic:

- Calculate the z statistic for the actual arrangement of the data

- Pool and mix the CLEC and Qwest data sets

- Perform the following 1000 times:

  - Randomly subdivide the pooled data sets into two pools, one the same size as the original CLEC data set ( $n_{\text{CLEC}}$ ) and one reflecting the remaining data points, and one reflecting the remaining data points, (which is equal to the size of the original Qwest data set or  $n_{\text{QWEST}}$ ).

  - Compute and store the Z-test score ( $Z_s$ ) for this sample.

- Count the number of times the Z statistic for a permutation of the data is greater than the actual Z statistic

- Compute the fraction of permutations for which the statistic for the rearranged data is greater than the statistic for the actual samples

If the fraction is greater than  $\alpha$ , the significance level of the test, the hypothesis of no difference is not rejected, and the test is passed.

## 5.0 Balanced Exclusion Table

The application of the Balanced Exclusion Table is as follows. First, compute the number of tests performed ( $T$ ). Compute the number of test failed ( $F$ ) based on a critical value of 1.65 (or -1.65). Compare the number of failed tests to the  $K$  value. If  $F < K$ , then the null hypothesis of parity service is accepted and  $0.05 \cdot T$  exclusions are provided Qwest (the expected number of Type I failures). If  $F > K$ , then the null hypothesis of parity service is rejected and the exclusions are adjusted to account for Type II error. If the average sample size for the CLEC is less than or equal to 1,450 (for parity measures only), then no measures are excluded because Type II error exceeds Type I error. For average CLEC sample sizes greater than 1,450, exclusions equal  $0.05 \cdot T \cdot (1 - F/T)$ .

While the Balanced Exclusion Table is presented in table form, all the values are more readily determined using simple algorithm. Determining the number of exclusions is accomplished as follows. First, compute  $T$ ,  $F$ ,  $K$ , and the average CLEC sample size ( $n_c^*$ ).<sup>6</sup> Second, the hypothesis of parity across all measures is tested by comparing  $F$  and  $K$ . If  $F < K$ , then the assumption of parity across measures is accepted and exclusions equal  $0.05 \cdot T$  (because the significance level is 0.05). Alternately, if  $F > K$ , then parity is rejected and exclusions are adjusted as follows. If  $F > K$  and  $n_c^* \leq 1,450$ , then no exclusions are given. If  $F > K$  and  $n_c^* > 1,450$ , then exclusions equal  $0.05 \cdot T \cdot (1 - F/T)$ . Any statistical package, Excel, or Lotus 1-2-3 performs these computations easily and quickly.

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<sup>6</sup>  $K$  is derived from the binomial distribution. In Microsoft Excel, the command is [=CRITBINOM( $T$ , 0.05, 0.95)].



Balanced Exclusion Table					
T = Number of Statistical Tests Performed (excluding benchmarks).					
F = Number of Observed Test Failures ( $z > 1.65$ )					
N = Average CLEC Sample Size for All Metrics or Potentially Excluded Metrics					
Number of Tests	Parity-Null Critical Value	Expected Type I Failures	Exclusions		
T	K	$\alpha T$	F < K	F > K	
				N ≤ 1,450	N > 1,450
10	2	0	0	0	0
20	3	1	1	0	1 × (1 - F/T)
30	4	1	1	0	1 × (1 - F/T)
40	4	2	2	0	2 × (1 - F/T)
50	5	2	2	0	2 × (1 - F/T)
60	6	3	3	0	3 × (1 - F/T)
70	7	3	3	0	3 × (1 - F/T)
80	7	4	4	0	4 × (1 - F/T)
90	8	4	4	0	4 × (1 - F/T)
100	9	5	5	0	5 × (1 - F/T)
110	9	5	5	0	5 × (1 - F/T)
120	10	6	6	0	6 × (1 - F/T)
130	11	6	6	0	6 × (1 - F/T)
140	11	7	7	0	7 × (1 - F/T)
150	12	7	7	0	7 × (1 - F/T)
160	13	8	8	0	8 × (1 - F/T)
170	13	8	8	0	8 × (1 - F/T)
180	14	9	9	0	9 × (1 - F/T)
190	15	9	9	0	9 × (1 - F/T)
200	15	10	10	0	10 × (1 - F/T)
250	18	12	12	0	12 × (1 - F/T)
300	21	15	15	0	15 × (1 - F/T)
350	24	17	17	0	17 × (1 - F/T)
400	27	20	20	0	20 × (1 - F/T)
450	30	22	22	0	22 × (1 - F/T)
500	33	25	25	0	25 × (1 - F/T)
550	36	27	27	0	27 × (1 - F/T)
600	39	30	30	0	30 × (1 - F/T)
650	42	32	32	0	32 × (1 - F/T)
700	45	35	35	0	35 × (1 - F/T)
750	48	37	37	0	37 × (1 - F/T)
800	50	40	40	0	40 × (1 - F/T)
850	53	42	42	0	42 × (1 - F/T)
900	56	45	45	0	45 × (1 - F/T)
950	59	47	47	0	47 × (1 - F/T)
1000	62	50	50	0	50 × (1 - F/T)

## **6.0 Tier-1 Payments to CLECs**

Tier-1 payments to CLECs relate solely to the performance measurements designated as Tier-1 on Attachment 1. For purposes of calculating the amount of payments, the Tier-1 performance measurements are categorized as High, Medium, and Low. The amount of payments for non-conforming service varies depending upon the High, Medium, and Low designations and upon the duration of the non-conforming condition, as described below. "Non-conforming" service is defined in section 4.0.

**6.1 Determination of Non-conforming Measurements:** The number of performance measurements that are determined to be "non-conforming" and, therefore, eligible for Tier-1 payments, are limited according to the Balanced Exclusion Table. The Critical Z-value of 1.65 is the statistical standard that determines for each CLEC performance measurement whether Qwest has met parity. Exclusions from the Balanced Exclusion Table determine the number of measurements that are excluded from the payment calculation described in section 7.0 and 8.0. The number of exclusions is determined from Table 1 by totaling the number of performance measurements (for which a statistical test is performed) applicable to a CLEC during a month where the sample size is 10 or greater. A description of how the Balanced Exclusion Table is applied is provided in Section 5.0.

**6.2 Determination of the Amount of Payment:** Tier-1 payments to CLECs, except as provided for in section 10.0, are calculated and paid monthly based on the number of performance measurements exceeding the Critical Z-value of 1.65, subject to the adjustments made by the Balanced Exclusion Table. Payments will be made on either a per occurrence or per measurement basis, depending upon the performance measurement, using the dollar amounts, duration factors, and severity factors specified in Table 2 below. The dollar amounts vary depending upon whether the performance measurement is designated High, Medium, or Low, escalate depending upon the number of consecutive months for which Qwest has not met the standard for the particular measurement, and escalate based on the percentage difference between the performance of the ILEC and CLEC.<sup>7</sup>

During the first experience of repeated failures for a given measure, the payment amount returns to the base payment (the duration factor is set to 1) after two-months of conformance. If the duration factors are applied again to the same measure, the base penalty is increased to the highest payment made prior to conformance. In other words, during and after the second episode of repeated failure, the payments do not return to the base payment level.<sup>8</sup>

For those performance measurements listed on Attachment 2 as "Performance Measurements Subject to Per Occurrence Payments With a Cap," payment to a CLEC in a single month shall not

<sup>7</sup> For purposes of assessing severity, the percentage difference for percentage benchmarks and parity measures is calculated as  $(ILEC - CLEC) / (1 - ILEC)$ , if higher percentage values indicate better performance.

<sup>8</sup> After a long spell of conformance, the Commission may initiate an investigation to determine whether or not the economic incentives of Qwest have changed adequately to warrant a slow markdown of the increased base payment. This reduction in the base payment will occur in 10% increments, unless non-conformance is again observed in which case the payment is increased to the highest base payment for which conformance was observed for more than three months.

exceed the amount listed in Table 2 below for the "Per Measurement" category. For those performance measurements listed on Attachment 2 as "Performance Measurements Subject to Per Measure Payments," payment to a CLEC will be the amount set forth in Table 2 below under the section labeled "per measure." Both 'Per Occurrence' and 'Per Measure' payment caps are subject to duration and severity factors.

**TABLE 2: TIER-1 PAYMENTS TO CLECs**

Per occurrence						
		Duration Factors				
Measurement Group	Base Payment	Month 2	Month 3	Month 4	Month 5	Month M and each following month
High	\$150	2	3	4	5	M
Medium	\$ 75	2	3	4	5	M
Low	\$ 25	2	3	4	5	M
		Severity Factors				
Means/Benchmark Difference	$s \geq 25\%$	$s \geq 50\%$	$s \geq 75\%$	$s \geq 100\%$	$s \geq 1.25\%$	$s \geq X\%$
Factor	1.25	1.5	1.75	2	2.25	1 + X

Per Measure/Cap						
		Duration Factors				
Measurement Group	Base Payment	Month 2	Month 3	Month 4	Month 5	Month M and each following month
High	\$25,000	2	3	4	5	M
Medium	\$10,000	2	3	4	5	M
Low	\$ 5,000	2	3	4	5	M
		Severity Factors				
	$s \geq 25\%$	$s \geq 50\%$	$s \geq 75\%$	$s \geq 100\%$	$s \geq 1.25\%$	$s \geq X\%$
	1.25	1.5	1.75	2	2.25	1 + X

## 7.0 Tier-2 Payments to State Funds

Payments to State Funds established by the State Regulatory Commissions under Tier-2 of the Qwest PAP provide additional incentive to correct on-going non-conformance. The payments apply to all Tier 1 measures and the aggregate CLEC data is used. Similar to the Tier-1 structure, Tier-2 measurements are categorized as High, Medium, and Low and the amount of payments for non-conformance varies according to this categorization.

**7.1 Determination of Non-conforming Measurements:** The determination of non-conformance will be based upon the aggregate of all CLEC data for each Tier-2 performance measurement. “Non-conforming” service is defined in section 4.0. The number of performance measurements determined to be “non-conforming” and, therefore, eligible for Tier-2 payments, is limited according to the 1.65 Critical Z-value and the Balanced Exclusion Table. The Critical Z-value of 1.65 is the statistical standard that determines for each parity performance measurement whether Qwest has met parity. Conformance with benchmarks is based on a “stare and compare” analysis.

**7.2 Determination of the Amount of Payment:** Tier-2 payments are calculated and paid monthly based on the number of performance measurements exceeding the Critical Z-value of 1.65 or falling short of established benchmarks. Payment will be made on either a per occurrence or per measurement basis, whichever is applicable to the performance measurement, using the dollar amounts specified in Table 3 below. The dollar amounts vary depending upon whether the performance measurement is designated High, Medium, or Low. Like Tier 1 payments, Tier 2 payments vary by both the duration and severity of the disparity (with the factors specified in Table 2).

For those Tier-2 measurements listed in Attachment 2 as “Performance Measurements Subject to Per Measurement Payment,” payment to a State Fund will be the amount set forth in Table 3 under the section labeled “per measure”. Severity and duration factors apply to per-measure payments.

**7.3 Use of the Funds:** Qwest payments to the State Funds shall be used in a competitively-neutral manner and shall not re-enter Qwest’s revenue stream.

**TABLE 3: TIER-2 PAYMENTS TO STATE FUNDS**

Per occurrence

Measurement Group	
High	\$500
Medium	\$300
Low	\$200

Per Measurement/Cap

Measurement Group	
High	\$75,000
Medium	\$30,000
Low	\$20,000

## 8.0 Step by Step Calculation of Tier-1 Payments to CLECs

The following describes step-by-step the calculation of Tier-1 payments. The calculation will be performed monthly for each CLEC.

### 8.1 Application of the Exclusions:

For each CLEC, determine the total number of Tier-1 performance measurements<sup>9</sup> that measure the service provided by Qwest for the month in question. From Table 1 in section 5.0, determine for each CLEC the number of applicable exclusions.

For each CLEC, identify the Tier-1 performance measurements with a minimum sample size of 10 that Qwest's service performance is "non-conforming" for the month in question, using the Critical Z-value of 1.65.

For the retail analogue performance measurements that are identified as non-conforming, group the measurements according to the High, Medium, and Low categories shown on Attachment 1.

Within each High, Medium, and Low group, sort the performance measurements in ascending order based on the number of data points or transactions used to develop the performance measurement result (e.g., service orders, collocation requests, installations, trouble reports).

Exclude the first failures designated as Low up to the number of exclusions provided by the Balanced Exclusion Table, starting with the performance measurement that has the fewest number of underlying data points. If the number of performance measurements in the Low category is less than the number of Exclusions, repeat the process next with the Medium category and then the High category until a total number of excluded performance measurements have been excluded. If all Low, Medium and High measurements are excluded by this process, then no payment is due. Non-excluded and "non-conforming" performance measurements, if any, are used to calculate Tier-1 payments to each CLEC.

The following qualifications apply to the general rule of excluding performance measurements as described above. A performance measurement, for which the payment is on a per measure basis,

<sup>9</sup> For the purpose of determining the K value and Critical Z-values, each disaggregated category of a performance measurement with a minimum sample size of 10 counts as "one" measure. For instance, a performance measurement that is disaggregated into 10 products, each further disaggregated into two geographic areas would count as "20" measurements.

will not be excluded unless the amount of that measure's payment is less than the payment that would result for each remaining measure.

## **8.2 Performance Measurements for which Payment is Per Occurrence:**

The following describes the calculation of Tier-1 payments to CLECs in which payment is based upon a per occurrence dollar amount.

### **8.2.1 Performance Measurements that are Averages or Means:**

Step 1: For each performance measurement, calculate the average or the mean that would yield the Critical Z-value of 1.65. Use the same denominator as the one used in calculating the Z-statistic for the measure.

Step 2: Calculate the percentage differences between the actual averages and the calculated averages. The calculation is  $\% \text{ diff} = (\text{CLEC result} - \text{Calculated Value}) / \text{Calculated Value}$ .

Step 3: For each performance measurement, multiply the total number of data points by the percentage calculated in the previous step and the per occurrence dollar amounts taken from the Tier-1 Payment Table to determine the payment to the CLEC for each non-conforming performance measurement.

### **8.2.2 Performance Measurements that are Percentages:**

Step 1: For each performance measurement, calculate the percentage that would yield the Critical Z-value of 1.65. Use the same denominator as the one used in calculating the Z statistic for the measure.

Step 2: Calculate the percentage difference between the actual percentages for the CLEC and the calculated percentages. The calculation is  $\% \text{ diff} = (\text{CLEC \% result} - \text{Calculated \% Value}) / \text{Calculated \% Value}$ .

Step 3: For each performance measurement, multiply the total number of data points by the difference in percentage calculated in the previous step and the per occurrence dollar amount taken from the Tier-1 Payment Table to determine the payment to the CLEC for each non-conforming performance measurement.

### **8.2.3 Performance Measurements that are Ratios or Proportions:**

Step 1: For each performance measurement, calculate the ratio that would yield the Critical Z-value. Use the same denominator as the one used in calculating the Z-statistic for the measure. (For benchmark measurements, use the benchmark value.)

Step 2: Calculate the percentage difference between the actual rate for the CLEC and the calculated rate. The calculation is  $\% \text{ diff} = (\text{CLEC \% rate} - \text{Calculated rate}) / \text{Calculated rate}$ .

Step 3: For each performance measurement, multiply the total number of data points by the difference calculated in the previous step and the per occurrence dollar amount taken from the Tier-

1 Payment Table to determine the payment to the CLEC for each non-conforming performance measurement.

**8.3 Performance Measurements for which Payment is Per Measure:** For each performance measurement that Qwest fails to meet the standard, the payment to the CLEC is the dollar amount shown on the “per measure” portion of the Tier-1 Payment Table.

## **9.0 Step by Step Calculation of Tier-2 Payments**

The following describes step by step the calculation of Tier-2 payments. The calculation will be performed monthly using the aggregate CLEC performance results. All Tier-2 payments will be made to a designated state fund.

Determine the total number of Tier-2 performance measurements<sup>10</sup> that measure the service provided by Qwest to all CLECs for the month in question. From Table 1 in section 5.0, determine the number of exclusions to be used below.

Identify the Tier-2 performance measurement for which Qwest’s service performance is non-conforming for the month in question, using the Critical Z-value of 1.65.

For each performance measurement that is identified as non-conforming, payment will be calculated as described below.

### **9.1 Performance Measurements for which Payment is Per Occurrence:**

The following describes the calculation of Tier-2 payments to the State Fund in which payment is based upon a per occurrence dollar amount.

#### **9.1.1 Performance Measurements that are Averages or Means:**

Step 1: Calculate the monthly average or the mean for each performance measurement that would yield the Critical Z-value of 1.65 for each month. Use the same denominator as the one used in calculating the Z-statistic for the measure. (For benchmark measurements, use the benchmark value.)

Step 2: Calculate the percentage difference between the actual averages and the calculated averages for each month. The calculation for parity measurements is % diff = (actual average – calculated average)/calculated average.

Step 3: For each performance measurement, multiply the total number of data points each month by the percentage calculated in the previous step. Multiply this result by the per occurrence dollar

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<sup>10</sup> For the purpose of determining the Critical Z-value, each disaggregated category of a performance measurement with a minimum sample size of 10 counts as “one” measure. For instance, a performance measurement that is disaggregated into 10 products, each further disaggregated into two geographic areas would count as “20” measurements.

amount taken from the Tier-2 Payment Table to determine the payment to the State Fund for each non-conforming performance measurement.

#### **9.1.2 Performance Measurements that are Percentages:**

Step 1: For each performance measurement, calculate the monthly percentage that would yield the Critical Z-value of 1.65 for each month. Use the same denominator as the one used in calculating the Z-statistic for the measure. (For benchmark measurements, use the benchmark value.)

Step 2: Calculate the percentage difference between the actual percentages and the calculated percentages for each non-conforming measure. The calculation is  $\% \text{ diff} = (\text{CLEC \% result} - \text{Calculated \% Value}) / \text{Calculated \% Value}$ . This formula is applicable where a high value is indicative of poor performance. The formula is reversed where high performance is indicative of good performance.

Step 3: For each performance measurement, multiply the total number of data points by the difference in percentage calculated in the previous step. Multiply this result by the per occurrence dollar amounts taken from the Tier-2 Payment Table to determine the payment to the State Fund for each non-conforming performance measurement.

#### **9.1.3 Performance Measurements that are Ratios or Proportions:**

Step 1: For each performance measurement, calculate the ratio that would yield the Critical Z-value of 1.65 for each month. Use the same denominator as the one used in calculating the Z-statistic for the measure. (For benchmark measurements, use the benchmark value.)

Step 2: Calculate the difference between the actual rate for the CLEC and the calculated rate for each month of the non-conforming three-month period. The calculation is  $\% \text{ diff} = (\text{CLEC \% rate} - \text{Calculated rate}) / \text{Calculated rate}$ .

This formula is applicable where a high value is indicative of poor performance. The formula is reversed where high performance is indicative of good performance.

Step 3: For each performance measurement, multiply the total number of data points by the difference calculated in the previous step for each month. Multiply the result by the per occurrence dollar amounts taken from the Tier-2 Payment Table to determine the payment to the State Fund for each non-conforming performance measurement.

#### **9.2 Performance Measurements that Payment is Per Measure:**

For each performance measurement that Qwest fails to meet the standard, the payment to the State Fund is the dollar amount shown on the "per measure" portion of the Tier-2 Payment Table.

### **10.0 Low Volume and Developing Markets**



In the event the monthly volume of a CLEC participating in the PAP is more than 10 but less than 100 for an individual measure, Qwest will make Tier-1 payments of a minimum of \$2,500 to the CLEC if during a month Qwest fails to meet the parity or benchmark standard for the performance sub-measurement.

At the 6-month reviews, the Commission, CLECs, and Qwest will consider adjustments to the minimum payment including the possible exclusion of particular measures or a reduction or increase in the minimum payment amount.

### **11.0 Payment**

Payments to CLECs or the State Fund shall be made one month following the due date of the performance measurement report for the month for which payment is being made.

Payments to CLECs and . the State Fund will be made via check or wire transfer.

### **12.0 Cap on Tier-1 and Tier-2 Payments**

There shall be a procedural cap on the total payments by Qwest during a calendar year for each of the 14 states. The cap amounts by state are shown on Attachment 3. The cap represents 44% of the "net revenues," where net revenues are defined in the FCC's order approving the Bell Atlantic-New York 271 application and affirmed in the FCC order approving the Southwest Bell Telephone-Texas 271 application.<sup>11</sup> The procedural cap applies to the aggregate of Tier-1 and Tier-2 payments to CLECs, excluding payments made pursuant to any other alternative performance obligations pursuant to an interconnection agreement with a CLEC and any other payments required by State Commissions pursuant to service quality rules, orders or other agreements that relate to the same or analogous service. If the procedural cap is reached during any consecutive 12 month period Qwest shall, within 30 days, file a petition with the State Commission for an expected hearing showing why it should not be required to pay remedies in excess of the procedural cap. Payments shall be made to escrow during this proceeding.

In the event the annual procedural cap is reached within a calendar year or one-sixth of the cap is reached in a single month and it is determined that poor performance alone is the cause of such payments, Qwest shall cease offering in-region interLATA services to new customers.

### **13.0 Limitations**

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<sup>11</sup> Federal Communications Commission, CC Docket No. 99-404, Memorandum Opinion and Order, December 22, 1999, Para. 436 and footnote 1332; Federal Communications Commission, CC Docket No. 00-65, Memorandum Opinion and Order, June 30, 2000, Para 424.

**13.1** Qwest's PAP shall not become available in a State until approval by the State Commission. The Plan shall be in effect six-months prior to a 271 filing before the FCC.

**13.2** Qwest shall be liable for Tier-1 or Tier-2 payments to any CLEC offering services in the state using resale, interconnection, or unbundled elements.

**13.3** Qwest shall not be obligated to make Tier-1 or Tier-2 payments for any measurement if and to the extent that non-conformance for that measurement was the result of any of the following: a Force Majeure event; an act or omission by a CLEC that is contrary to any of its obligations under its interconnection agreement with Qwest or under the Act or State law; or an act or omission by a CLEC that is in bad faith.<sup>12</sup> Qwest will not be excused from Tier-1 or Tier-2 payments on any other grounds, except as described in paragraph 12.7. Qwest will have the burden to demonstrate that its non-conformance with the performance measure was excused on one of the grounds described in this PAP.

**13.8** Whenever a Qwest Tier-1 payment to an individual CLEC exceeds \$3 million in a month, or when all CLEC Tier-1 payments in any given month exceed the monthly cap (section 12.0), Qwest may commence a show cause proceeding. Upon timely commencement of the show cause proceeding, Qwest must pay the balance of payments owed in excess of the threshold amount into escrow, to be held by a third party pending the outcome of the show cause proceeding. To invoke these escrow provisions, Qwest must file with the Commission, not later than the due date of the Tier-1 payments, an application to show cause why it should not be required to pay any amount in excess of the procedural threshold. Qwest will have the burden of proof to demonstrate why, under the circumstances, it would be unjust to require it to make the payments in excess of the applicable threshold amount. If Qwest reports non-conforming performance to a CLEC for three consecutive months on 20% or more of the measurements reported to the CLEC and has incurred no more than \$1 million in liability to the CLEC, the CLEC may commence a similar show cause proceeding. In any such proceeding the CLEC will have the burden of proof to demonstrate why, under the circumstances, justice requires Qwest to make payments in excess of the amount calculated pursuant to the terms of the PAP.

#### **14.0 Reporting**

Upon FCC 271 approval for a state, Qwest will provide CLECs, whose transactions are monitored by the PAP, a monthly report of Qwest's performance for the measurements identified in the PAP by the 25th day of the month following the month for which performance results are being reported. In addition to the descriptive statistics for the measures, the report shall include the payment, if any, levied for each individual measures and indicate which measures were excluded by the Balanced Exclusion Table. Qwest will collect, analyze, and report performance data for the measurements listed on Attachment 1 in accordance with the most recent version of the Service Performance Indicator Definitions (PID). Upon a CLEC's request, data files of the CLEC's raw

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<sup>12</sup> Examples of bad faith conduct include, but are not limited to: unreasonably holding service orders and/or applications, "dumping" orders or applications in unreasonable large batches, "dumping" orders or applications at or near the close of a business day, on a Friday evening or prior to a holiday, and failing to provide timely forecasts to Qwest for services or facilities when such forecasts are required to reasonably provide services or facilities.

data, or any subset thereof, will be transmitted, without charge, to the CLEC in a mutually acceptable format, protocol, and transmission medium.

Qwest will also provide the Commission a monthly report of aggregate CLEC performance results pursuant to the PAP by the 25th day of the month following the month for which performance results are being reported. Individual CLEC reports will also be available to the Commission upon request. Upon the Commission's request, data files of the CLEC raw data, or any subject thereof, will be transmitted, without charge, to the Commission in a mutually acceptable format, protocol, and transmission form. By accepting this PAP, each CLEC consents to Qwest providing that CLEC's report and raw data to State Commissions upon the Commission's request.

## **15.0 Reviews**

Every six (6) months, Qwest, CLECs, and the Commission shall review the performance measurements to determine whether measurements should be added, deleted, or modified; whether the applicable benchmark standards should be modified or replaced by parity standards; and whether to move a classification of a measure to High, Medium, or Low or Tier-1 to Tier-2. Criteria for review of performance measurements, other than for possible reclassification, shall be whether there exists an omission or failure to capture intended performance, and whether there is duplication of another measurement. The first six-month period will begin upon the FCC's approval of Qwest's 271 application for that particular state. Any changes to existing performance measurements and this PAP shall be by mutual agreement of the parties.

Qwest will make the PAP available for CLECs until such time as the Commission finds it no longer necessary. In the event the requirement of Qwest to provide unbundled elements is lifted, the PAP shall be rescinded upon Commission approval.

## 16.0 Voluntary Performance Assurance Plan

### Attachment 1: Tier-1 and Tier-2 Performance Measurements

Performance Measurement		Tier-1 Payments			Tier-2 Payments		
		Low	Med	High	Low	Med	High
GATEWAY AVAILABILITY							
Availability of IMA – IMA-GUI	GA-1						X
Gateway Availability – IMA-EDI	GA-2						X
PRE-ORDER/ORDERS							
Pre-Order/Order Response Time	PO-1					X	
LSR Rejection Notice Interval	PO-3	X					
Firm Order Confirmations On Time	PO-5	X				X*	
Billing Completion Notification Timeliness	PO-7	X					
Jeopardy Notice Interval	PO-8	X					
ORDERING AND PROVISIONING							
Calls Answered within Twenty Seconds	OP-2						X
Installation Commitments Met	OP-3			X			X
Installation Intervals	OP-4			X			X
New Service Installation Only	OP-5			X			X
Number Portability Timeliness	OP-8		X			X	
Coordinated Cuts On Time – Unbundled Loops	OP-13a		X			X	
MAINTENANCE AND REPAIR							
Calls Answered within 20 seconds-Interconnect	MR-2						X
Out of Service Cleared within 24 hours	MR-3		X				
All Troubles Cleared within 4 hours	MR-5		X				
Repair Repeat Report Rate	MR-7			X			X
Trouble Rate	MR-8			X			X
Repair Appointments Met	MR-9			X			X
BILLING							
Time to Provide Recorded Usage Records	BI-1	X					
Invoices Delivered within 10 Days	BI-2						X
Billing Accuracy-Adjustments for Errors	BI-3	X					
Billing Completeness	BI-4	X				X	
NETWORK PERFORMANCE							
Trunk Blocking	NI-1			X			X
NXX Code Activation	NP-1			X			X
COLLOCATION							
Installation Interval	CP-1	X					
Installation Commitments Met	CP-2			X			X
Feasibility Study Interval	CP-3	X					
Feasibility Study Commitments Met	CP-4	X					
Quote Interval	CP-5	X					
Quote Commitment Met	CP-6	X					
To Be Determined	---	---	---	---	---	---	---

\* Some PID Sub-Measurements are Tier1 only.

Attachment 2

Performance Measurements Subject to Per Occurrence Payments With a Cap

Pre-Order/Orders

- Pre-Order/Order Response Time – PO-1 (Tier-1/Tier-2)
- LSR Rejection Notice Interval – PO-3 (Tier-1)
- Firm Order Confirmation on Time – PO-5 (some sub-measurements do not have caps)  
(Tier-1/Tier-2)
- Billing Completion Notification Timeliness – PO-7 (Tier-1)

Billing

- Invoices Delivered within 10 Days – BI-2 (Tier-1/Tier-2)
- Billing Accuracy – Adjustments for Errors – BI-3 (Tier-1)
- Billing Completeness – BI-4 (Tier-1/Tier-2)

Network Performance

- Trunk Blocking – NI-1 (Tier-1/Tier-2)

Performance Measurements Subject to Per Measure Payments

Gateway Availability

- Availability of IMA – IMA-GUI – GA-1 (Tier-2)
- Gateway Availability – IMA-EDI – GA-2 (Tier-2)

Ordering & Provisioning

- Calls Answered within Twenty Seconds – OP-2 (Tier-2)

Maintenance & Repair

- Calls Answered within Twenty Seconds – MR-2 (Tier-2)

### Attachment 3

#### Annual Cap on Qwest Payments

Attachment 3 Annual Cap on Qwest Payments (millions)		
State	1999 ARMIS Net Return	Annual Procedural Cap
Arizona*	260	114
Colorado	288	126
Idaho	68	30
Iowa	85	37
Minnesota	246	108
Montana	44	20
Nebraska	84	37
New Mexico	89	39
North Dakota	35	15
Oregon	132	58
South Dakota	42	18
Utah	128	56
Washington	225	99
Wyoming	34	15
Total Qwest	1,760	772

\* The Arizona adjustment reflects Commission's represcription Decision No. 62507, Docket No. T-01051B-97-0689. Docket No. T-01051B-99-105 is the general rate case in which revenue recover of the increased depreciation expense is at issue. Upon final order in the rate case, the annual cap will be revised to reflect the offsetting revenues.

\*\* The New Mexico adjustment reflects the New Mexico Commission's interim rate order in Docket No. 3007. Permanent rates will be set in Docket No. 3008 and will be reflected in this adjustment when rates are final.

## **EXHIBIT 3**

## THE MODIFIED QWEST ARIZONA PERFORMANCE ASSURANCE PLAN

### 1.0 Introduction

In conjunction with its applications to State Commissions for approval under Section 271 of the Telecommunications Act of 1996 (the "Act") to offer in-region long distance service, Qwest Corporation ("Qwest") proposes the following Performance Assurance Plan ("PAP"). Qwest is committed to continued compliance with its Section 271 obligations. As proof of that commitment, Qwest is prepared to voluntarily enter into ~~this post-271 approval~~ monitoring and enforcement mechanism, as outlined below, as a demonstration of its commitment to continue to satisfy Section ~~271-251~~ of the Act.<sup>1</sup>

The Qwest PAP mirrors the performance assurance plan approved by the Federal Communications Commission ("FCC") for Southwest Bell Telephone Company-Texas, but remedies a number of shortcomings in the Texas Plan and incorporates numerous improvements.<sup>2</sup> Qwest believes that controversy can be avoided and the resources of the State Commissions and the Company can be best utilized by avoiding a drawn out process of creating a performance assurance plan from scratch. Therefore, Qwest has taken the extraordinary step of duplicating key elements of the approved Texas plan and adjustment the plan where necessary to remedy flaws and improve the plan's effectiveness.

The FCC has recognized that performance assurance plans may vary widely from state to state, but that the key elements of any plan should fall within a "zone of reasonableness" such that the plans provide incentives sufficient to foster on-going satisfaction of 271 requirements.<sup>3</sup> Rather than "reinvent" key elements, the Qwest PAP adopts the basic principles of the Texas enforcement plan structure, including its statistical tables test, payment computation, and initial payment levels/schedules. Furthermore, the Qwest PAP puts at risk 4436% of the Company's "net revenues" derived from local exchange services.

### 2.0 Plan Structure

The Qwest PAP is a two-tiered, self-executing remedy plan. The plan is developed to provide individual CLECs with Tier-1 payments if Qwest does not provide parity between the service it provides to the CLEC and that which it provides to its retail customers, or if Qwest fails to meet applicable benchmarks. In addition, the PAP provides Qwest with additional incentives to satisfy parity and benchmark standards by requiring Qwest to make Tier-2 payments--

<sup>1</sup> Specifically, the enforcement plan is intended to satisfy Sections 251(c)(2)(C) and 251(c)(3) of the Act.

<sup>2</sup> *In the Matter of the Application by SBC Communications, Inc.*, CC Docket No. 00-65, Memorandum Opinion and Order, June 30, 2000.

<sup>3</sup> *Id.*, para. 423.



payments to State Funds established by the State Commissions--if Qwest fails to meet parity and benchmark standards on an aggregate CLEC basis. Tier-2 payments are over and above the Tier-1 payments made to individual CLECs.<sup>4</sup>

In the Qwest PAP, performance measurements are given different weightings to reflect relative importance by the designations of High, Medium, and Low. Payment is generally on a per occurrence basis, i.e., a set dollar payment times the number of non-conforming service events. For the performance measurements which do not lend themselves to per occurrence payment, payment is on a per measurement basis, i.e., a set dollar payment. ~~The level of payment also depends upon the number of consecutive months of non-conforming performance, i.e., an escalating payment the longer the duration of non-conforming performance. The level of payment also depends upon both the severity and duration of non-conforming performance, i.e., the payments are increased with larger deviations from parity in a single month and repeated failures across months.~~

The parity standard is met when the service Qwest provides to CLECs is equivalent to that which it provides to its retail customers. Statistically, parity exists when performance results for the CLEC and for the Qwest retail analogue result in a Z-value that is no greater than the ~~Critical Z-values listed in the Critical Z-Statistical Table in section 5.01.65 (a 5% significance level).~~<sup>5</sup> ~~The Qwest PAP relies upon statistical scoring to determine whether any difference between CLEC and Qwest performance results is significant, that is, not attributable to simple random variation.~~ employs the Balanced Exclusion Table in order to adjust payments for Type I and Type II errors.

For performance measurements that have no Qwest retail analogue, agreed upon benchmarks are used. Benchmarks are evaluated using a "stare and compare" method. For example, if the benchmark is 95% or better, Qwest performance results must be at least 95% to meet the benchmark. When sample sizes are less than 100, percentage benchmark values will be adjusted to round the allowable number of misses to the next higher integer. For example, in the event of a 95% benchmark, the number of misses is 5% times the sample size, rounded up to the nearest integer. Benchmark measures are not included for purposes of the Balanced Exclusion Table.

### 3.0 Performance Measurements

<sup>4</sup> It is anticipated that each state fund will be established concurrently with the FCC's approval of the respective State's 271 application.

<sup>5</sup> The standard Z-test is based on normal statistical theory. If the sample size is large enough, the sample mean will follow a known normal distribution that is dependent on the variance of the data and on the sample size. A sample size of 30 is generally considered sufficient, although the required minimum sample size is dependent on the statistical skewness of the data being sampled. The assumption of a normal distribution is what allows the Z-test. When the sample size becomes too small, the distribution of the sample mean is no longer normal and the Z-test may not be reliable. In that event, other methods, as described below, may be appropriate.

The Qwest PAP incorporates performance measurements that will ensure Qwest's service performance to competitors can be measured and monitored so that any degradation of the agreed upon level of service is detected and corrected. CLECs operating in Qwest's region offer services through several modes, including resale, interconnection, and the purchase of unbundled network elements. The performance measurements incorporated into the Qwest PAP are broad based enough to cover all the modes of entry.

Performance measurements have been developed in the 271 collaborative workshops. Each of the measurements have been given a precise definition, called a Performance Indicator Definition ("PID"), that includes specification of the unit of measure, the data to be utilized in the measurement, and the standard. The standard may be a parity comparison of CLEC service performance with the Qwest retail analogue. When no retail analogue exists, the standard is a benchmark. The PIDs have been agreed to among Qwest, the CLECs, and participating State Commission staff members.

The performance measurements incorporated into the Qwest PAP are shown in Attachment 1. Similar to the approved Texas plan, the measurements are designated as Tier-1, Tier-2, or both Tier-1 and Tier-2. The measurements are also given a High, Medium, or Low designation, reflective of relative importance. Of the ~~34~~TBD measurements that the parties have agreed to in the ROC PID workshops, Qwest incorporates ~~34~~TBD of the measurements into the PAP.<sup>6</sup>

#### 4.0 Statistical Measurement

Qwest proposes the use of a statistical test, namely the modified "Z-test," for evaluating the difference between two means (i.e., Qwest and CLEC service or repair intervals) or two percentages (e.g., Qwest and CLEC proportions), to determine whether a parity condition exists between the results for Qwest and the CLEC(s). The modified Z-tests are applicable if the number of data points are greater than 30 for a given measurement. For testing measurements for which the number of data points are 30 or less, Qwest may use a permutation test to determine the statistical significance of the difference between Qwest and CLEC(s).

Qwest will be in conformance when the monthly performance results for parity measurements (whether in the form of means, percents, or proportions and at the equivalent level of disaggregation) are such that the calculated Z test statistics are not greater than the Critical Z-values. ~~Critical Z-values are listed in Table 4, section 5.01.65.~~ Qwest will be in conformance with benchmark measurements when the monthly performance result equals or exceeds the benchmark if a higher value means better performance, and when the monthly performance result equals or is less than the benchmark if a lower value means better performance.

<sup>6</sup> Of the 20 PIDs not included in Qwest's PAP, 14 are diagnostic or parity by design. As such, it is not appropriate to include them in a performance assurance plan. The remaining 6 measurements are not included because they were not requested by the CLECs in the Arizona 271 performance assurance workshops that are underway or are duplicative of other measurements that are included.

The following is the formula for determining parity using the Z test:

$$z = \text{DIFF} / \sigma_{\text{DIFF}}$$

Where:

$$\text{DIFF} = M_{\text{Qwest}} - M_{\text{CLEC}}$$

$$M_{\text{QWEST}} = \text{Qwest average or proportion}$$

$$M_{\text{CLEC}} = \text{CLEC average or proportion}$$

$$\sigma_{\text{DIFF}} = \text{SQRT} [\sigma^2_{\text{Qwest}} (1/n_{\text{CLEC}} + 1/n_{\text{Qwest}})]$$

$$\sigma^2_{\text{Qwest}} = \text{Calculated variance for Qwest}$$

$$n_{\text{Qwest}} = \text{number of observations or samples used in Qwest measurement}$$

$$n_{\text{CLEC}} = \text{number of observations or samples used in CLEC measurement}$$

The Z tests will be applied to reported parity measurements that contain more than 30 data points.

In calculating the difference between Qwest and CLEC performance, the above formulae apply when a larger Qwest value indicates a better level of performance. In cases where a smaller Qwest value indicates a higher level of performance, the order is reversed, i.e.,  $M_{\text{CLEC}} - M_{\text{QWEST}}$ .

For parity measurements where the performance delivered to CLEC(s) is compared to Qwest performance and for which the number of data points is 30 or less, Qwest will apply a permutation test to test for statistical significance. Permutation analysis will be applied to calculate the z statistic using the following logic:

Calculate the z statistic for the actual arrangement of the data

Pool and mix the CLEC and Qwest data sets

Perform the following 1000 times:

Randomly subdivide the pooled data sets into two pools, one the same size as the original CLEC data set ( $n_{\text{CLEC}}$ ) and one reflecting the remaining data points, and one reflecting the remaining data points, (which is equal to the size of the original Qwest data set or  $n_{\text{QWEST}}$ ).

Compute and store the Z-test score ( $Z_s$ ) for this sample.

Count the number of times the Z statistic for a permutation of the data is greater than the actual Z statistic

Compute the fraction of permutations for which the statistic for the rearranged data is greater than the statistic for the actual samples

If the fraction is greater than  $\alpha$ , the significance level of the test, the hypothesis of no difference is not rejected, and the test is passed.

### 5.0 Critical Z-value and K-value Balanced Exclusion Table

The Critical Z-value and K-value table seeks to account for statistical error arising from the natural variation in the performance results. Together, the Critical Z-value and K-value result in an adjustment for these statistical errors. The following table will be used to determine the Critical Z-value and the K-value that is referred to in section 6.0. In each instance, they are based on the total number of performance measurements that are applicable to a CLEC in a particular month.

**TABLE 1: CRITICAL Z-VALUE AND K-VALUE**

Total Number of CLEC Performance Measurements	K-Values	Critical Z-Value
1	0	1.65
2	0	1.96
3	0	2.12
4	0	2.23
5	0	2.32
6	0	2.39
7	0	2.44
8	1	1.60
9	1	1.74
10-19	1	1.79
20-29	2	1.73
30-39	2	1.68
40-49	2	1.81
50-59	4	1.75
60-69	5	1.7
70-79	6	1.68
80-89	6	1.74
90-99	7	1.71
100-109	8	1.68
110-119	9	1.7
120-139	10	1.72
140-159	12	1.68
160-179	13	1.69
180-199	14	1.7
200-249	17	1.7
250-299	20	1.7
300-399	26	1.7
400-499	32	1.7
500-599	38	1.72
600-699	44	1.72
700-799	49	1.73
800-899	55	1.75
900-999	60	1.77
1000 and above	Calculated for Type-1 Error Probability of 5%	Calculated for Type-1 Error Probability of 5%

The application of the Balanced Exclusion Table is as follows. First, compute the number of tests performed ( $T$ ). Compute the number of test failed ( $F$ ) based on a critical value of 1.65 (or -1.65). Compare the number of failed tests to the  $K$  value. If  $F < K$ , then the null hypothesis of parity service is accepted and  $0.05 \cdot T$  exclusions are provided Qwest (the expected number of Type I failures). If  $F > K$ , then the null hypothesis of parity service is rejected and the exclusions are adjusted to account for Type II error. If the average sample size for the CLEC is less than or equal to 1,450 (for parity measures only), then no measures are excluded because Type II error exceeds Type I error. For average CLEC sample sizes greater than 1,450, exclusions equal  $0.05 \cdot T \cdot (1 - F/T)$ .

While the Balanced Exclusion Table is presented in table form, all the values are more readily determined using simple algorithm. Determining the number of exclusions is accomplished as follows. First, compute  $T$ ,  $F$ ,  $K$ , and the average CLEC sample size ( $\bar{n}_c$ ).<sup>7</sup> Second, the hypothesis of parity across all measures is tested by comparing  $F$  and  $K$ . If  $F < K$ , then the assumption of parity across measures is accepted and exclusions equal  $0.05 \cdot T$  (because the significance level is 0.05). Alternately, if  $F > K$ , then parity is rejected and exclusions are adjusted as follows. If  $F > K$  and  $\bar{n}_c \leq 1,450$ , then no exclusions are given. If  $F > K$  and  $\bar{n}_c > 1,450$ , then exclusions equal  $0.05 \cdot T \cdot (1 - F/T)$ . Any statistical package, Excel, or Lotus 1-2-3 performs these computations easily and quickly.

<sup>7</sup>  $K$  is derived from the binomial distribution. In Microsoft Excel, the command is [=CRITBINOM(7, 0.05, 0.95)].

<b>Balanced Exclusion Table</b>					
<u>T = Number of Statistical Tests Performed (excluding benchmarks)</u>					
<u>F = Number of Observed Test Failures (<math>\alpha \geq 1.65</math>)</u>					
<u>N = Average CLEC Sample Size for All Metrics or Potentially Excluded Metrics</u>					
Number of Tests	Parity-Null Critical Value	Expected Type I Failures	Exclusions		
T	K	$\alpha T$	F < K	F > K	
				N <= 1,450	N > 1,450
10	2	0	0	0	0
20	3	1	1	0	$1 \times (1 - F/T)$
30	4	1	1	0	$1 \times (1 - F/T)$
40	4	2	2	0	$2 \times (1 - F/T)$
50	5	2	2	0	$2 \times (1 - F/T)$
60	6	3	3	0	$3 \times (1 - F/T)$
70	7	3	3	0	$3 \times (1 - F/T)$
80	7	4	4	0	$4 \times (1 - F/T)$
90	8	4	4	0	$4 \times (1 - F/T)$
100	9	5	5	0	$5 \times (1 - F/T)$
110	9	5	5	0	$5 \times (1 - F/T)$
120	10	6	6	0	$6 \times (1 - F/T)$
130	11	6	6	0	$6 \times (1 - F/T)$
140	11	7	7	0	$7 \times (1 - F/T)$
150	12	7	7	0	$7 \times (1 - F/T)$
160	13	8	8	0	$8 \times (1 - F/T)$
170	13	8	8	0	$8 \times (1 - F/T)$
180	14	9	9	0	$9 \times (1 - F/T)$
190	15	9	9	0	$9 \times (1 - F/T)$
200	15	10	10	0	$10 \times (1 - F/T)$
250	18	12	12	0	$12 \times (1 - F/T)$
300	21	15	15	0	$15 \times (1 - F/T)$
350	24	17	17	0	$17 \times (1 - F/T)$
400	27	20	20	0	$20 \times (1 - F/T)$
450	30	22	22	0	$22 \times (1 - F/T)$
500	33	25	25	0	$25 \times (1 - F/T)$
550	36	27	27	0	$27 \times (1 - F/T)$
600	39	30	30	0	$30 \times (1 - F/T)$
650	42	32	32	0	$32 \times (1 - F/T)$
700	45	35	35	0	$35 \times (1 - F/T)$
750	48	37	37	0	$37 \times (1 - F/T)$
800	50	40	40	0	$40 \times (1 - F/T)$
850	53	42	42	0	$42 \times (1 - F/T)$
900	56	45	45	0	$45 \times (1 - F/T)$
950	59	47	47	0	$47 \times (1 - F/T)$
1000	62	50	50	0	$50 \times (1 - F/T)$

## 6.0 Tier-1 Payments to CLECs

Tier-1 payments to CLECs relate solely to the performance measurements designated as Tier-1 on Attachment 1. For purposes of calculating the amount of payments, the Tier-1 performance measurements are categorized as High, Medium, and Low. The amount of payments for non-conforming service varies depending upon the High, Medium, and Low designations and upon the duration of the non-conforming condition, as described below. "Non-conforming" service is defined in section 4.0.

**6.1 Determination of Non-conforming Measurements:** The number of performance measurements that are determined to be "non-conforming" and, therefore, eligible for Tier-1 payments, are limited according to the ~~K-value~~ Balanced Exclusion Table and ~~Critical Z-value~~ shown in Table 1, section 5.0. The Critical Z-values of 1.65 is ~~becomes~~ the statistical standard that determines for each CLEC performance measurement whether Qwest has met parity. ~~The K-value~~ Exclusions from the Balanced Exclusion Table determines the number of measurements that are excluded from the payment calculation described in section 7.0 and 8.0. ~~The K-value and Critical Z-value~~ number of exclusions is ~~are~~ determined from Table 1 by totaling the number of performance measurements (for which a statistical test is performed) applicable to a CLEC during a month where the sample size is 10 or greater. For instance, ~~if the total number of measurements that capture the service provided by Qwest to a CLEC in a particular month was 100, the K-value would be 8 and the Critical Z-value would be 1.65.~~ A description of how the Balanced Exclusion Table is applied is provided in Section 5.0.

**6.2 Determination of the Amount of Payment:** Tier-1 payments to CLECs, except as provided for in section 10.0, are calculated and paid monthly based on the number of performance measurements exceeding the Critical Z-value of 1.65, subject to the adjustments made by the Balanced Exclusion Table, and the K-value. Payments will be made on either a per occurrence or per measurement basis, depending upon the performance measurement, using the dollar amounts, duration factors, and severity factors specified in Table 2 below. The dollar amounts vary depending upon whether the performance measurement is designated High, Medium, or Low, ~~and~~ escalate depending upon the number of consecutive months for which Qwest has not met the standard for the particular measurement, ~~and~~ escalate based on the percentage difference between the performance of the ILEC and CLEC.<sup>8</sup>

During the first experience of repeated failures for a given measure, the payment amount returns to the base payment (the duration factor is set to 1) after two-months of conformance. If the duration factors are applied again to the same measure, the base penalty is increased to the highest payment made prior to conformance. In other words, during and after the second episode of repeated failure, the payments do not return to the base payment level.<sup>9</sup>

<sup>8</sup> For purposes of assessing severity, the percentage difference for percentage benchmarks and parity measures is calculated as (ILEC - CLEC)/(1 - ILEC), if higher percentage values indicate better performance.

<sup>9</sup> After a long spell of conformance, the Commission may initiate an investigation to determine whether or not the economic incentives of Qwest have changed adequately to warrant a slow markdown of the increased base payment. This reduction in the base payment will occur in 10% increments, unless non-conformance is again



For those performance measurements listed on Attachment 2 as "Performance Measurements Subject to Per Occurrence Payments With a Cap," payment to a CLEC in a single month shall not exceed the amount listed in Table 2 below for the "Per Measurement" category. For those performance measurements listed on Attachment 2 as "Performance Measurements Subject to Per Measure Payments," payment to a CLEC will be the amount set forth in Table 2 below under the section labeled "per measure." Both 'Per Occurrence' and 'Per Measure' payment caps are subject to duration and severity factors.

~~6.3 The performance measurements listed below will not be excluded from the CLEC payment calculation in the application of k-values as provided in section 8.0, if Qwest performance results have been non-conforming in the previous two consecutive months. K-values will again apply when Qwest achieves two consecutive months of conformance performance results.~~

~~PO-5 (FOCs on time), unbundled loops~~

~~OP-3 (Installation Commitments Met), analog unbundled loops, LLS trunks~~

~~OP-4 (Installation Interval), ADSL qualified loops~~

~~OP-5 (New Service Installation Quality), UNE-P (POTS), analog unbundled loops~~

~~MR-7 (Repair Repeat Report Rate), analog unbundled loops~~

~~MR-8 (Trouble Rate), analog unbundled loops~~

~~NI-1 (Trunk Blocking), LLS trunks~~

~~CP-2A-1 (Installation Commitments Met), virtual, physical caged, shared collocation~~

**TABLE 2: TIER-1 PAYMENTS TO CLECs**

Per occurrence						
Measurement Group	Base Payment Month 1	Duration Factors				
		Month 2	Month 3	Month 4	Month 5	Month 6 M and each following month
High	\$150	<del>\$250</del> 2	<del>\$500</del> 3	<del>\$600</del> 4	<del>\$700</del> 5	<del>\$800</del> M
Medium	\$ 75	<del>\$150</del> 2	<del>\$300</del> 3	<del>\$400</del> 4	<del>\$500</del> 5	<del>\$600</del> M
Low	\$ 25	<del>\$ 50</del> 2	<del>\$100</del> 3	<del>\$200</del> 4	<del>\$300</del> 5	<del>\$400</del> M
Severity Factors						
Means/Benchmark Difference	$s \geq 25\%$	$s \geq 50\%$	$s \geq 75\%$	$s \geq 100\%$	$s \geq 1.25\%$	$s \geq X\%$
Factor	1.25	1.5	1.75	2	2.25	1 + X

Per Measure/Cap						
Measurement Group	Month +Base Payment	Duration Factors				
		Month 2	Month 3	Month 4	Month 5	Month 6 M and each

observed in which case the payment is increased to the highest base payment for which conformance was observed for more than three months.

						following month
High	\$25,000	\$50,000 <sub>2</sub>	\$75,000 <sub>3</sub>	\$100,000 <sub>4</sub>	\$125,000 <sub>5</sub>	\$150,000 <sub>M</sub>
Medium	\$10,000	\$20,000 <sub>2</sub>	\$30,000 <sub>3</sub>	\$40,000 <sub>4</sub>	\$50,000 <sub>5</sub>	\$60,000 <sub>M</sub>
Low	\$ 5,000	\$10,000 <sub>2</sub>	\$15,000 <sub>3</sub>	\$20,000 <sub>4</sub>	\$25,000 <sub>5</sub>	\$30,000 <sub>M</sub>
Severity Factors						
	$s \geq 25\%$	$s \geq 50\%$	$s \geq 75\%$	$s \geq 100\%$	$s \geq 1.25\%$	$s \geq 1\%$
	1.25	1.5	1.75	2	2.25	1 + X

## 7.0 Tier-2 Payments to State Funds

Payments to State Funds established by the State Regulatory Commissions under Tier-2 of the Qwest PAP provide additional incentive to correct on-going non-conformance. The payments apply to all Tier 1 measures and the aggregate CLEC data is used ~~are limited to the performance measurements designated as Tier 2 on Attachment 1 and which have at least 10 data points each month for the period payments are being calculated.~~ Similar to the Tier-1 structure, Tier-2 measurements are categorized as High, Medium, and Low and the amount of payments for non-conformance varies according to this categorization.

**7.1 Determination of Non-conforming Measurements:** The determination of non-conformance will be based upon the aggregate of all CLEC data for each Tier-2 performance measurement. "Non-conforming" service is defined in section 4.0. The number of performance measurements determined to be "non-conforming" and, therefore, eligible for Tier-2 payments, is limited according to the 1.65 Critical Z-value shown in Table 1, section and the Balanced Exclusion Table 5.0. ~~The Critical Z-value is determined from Table 1 by totaling the number of performance measurements applicable to any CLEC during a month where the sample size is 10 or greater. The Critical Z-value becomes of 1.65 is the statistical standard that determines for each parity performance measurement whether Qwest has met parity. Conformance with benchmarks is based on a "stare and compare" analysis.~~

**7.2 Determination of the Amount of Payment:** Tier-2 payments are calculated and paid monthly based on the number of performance measurements exceeding the Critical Z-value of 1.65 for three consecutive months or falling short of established benchmarks. Payment will be made on either a per occurrence or per measurement basis, whichever is applicable to the performance measurement, using the dollar amounts specified in Table 3 below. The dollar amounts vary depending upon whether the performance measurement is designated High, Medium, or Low. Like Tier 1 payments, Tier 2 payments vary by both the duration and severity of the disparity (with the factors specified in Table 2).

~~For those Tier 2 measurements listed on Attachment 2 as "Performance Measurements Subject to Per Occurrence Payments With a Cap," payment to a State Fund in a single month shall not exceed the amount listed in Table 3 for the "Per Measurement" category.~~

For those Tier-2 measurements listed in Attachment 2 as "Performance Measurements Subject to Per Measurement Payment," payment to a State Fund will be the amount set forth in Table 3 under the section labeled "per measure". Severity and duration factors apply to per-measure payments.

**7.3 Use of the Funds:** Qwest payments to the State Funds shall be used ~~to reimburse customers' share of fees to extend telephone service within Qwest's service territory, to extend Qwest telephone service into adjacent, unassigned service territory, and for any other purposes that relates to the Qwest service territory that may be determined by the State Commission.~~ in a competitively-neutral manner and shall not re-enter Qwest's revenue stream.

**TABLE 3: TIER-2 PAYMENTS TO STATE FUNDS**

Per occurrence

Measurement Group	
High	\$500
Medium	\$300
Low	\$200

Per Measurement/Cap

Measurement Group	
High	\$75,000
Medium	\$30,000
Low	\$20,000

## 8.0 Step by Step Calculation of Tier-1 Payments to CLECs

The following describes step-by-step the calculation of Tier-1 payments. The calculation will be performed monthly for each CLEC.

### 8.1 Application of the ~~K-Value~~ Exclusions:

For each CLEC, determine the total number of Tier-1 performance measurements<sup>10</sup> that measure the service provided by Qwest for the month in question. From Table 1 in section 5.0, determine for each CLEC the number of applicable exclusions. ~~K-value and Critical Z-value to be used below.~~

<sup>10</sup> For the purpose of determining the K value and Critical Z-values, each disaggregated category of a performance measurement with a minimum sample size of 10 counts as "one" measure. For instance, a performance measurement that is disaggregated into 10 products, each further disaggregated into two geographic areas would count as "20" measurements.

For each CLEC, identify the Tier-1 performance measurements with a minimum sample size of 10 that Qwest's service performance is "non-conforming" for the month in question, using the Critical Z-value of 1.65.

For the retail analogue performance measurements that are identified as non-conforming, group the measurements according to the High, Medium, and Low categories shown on Attachment 1.

Within each High, Medium, and Low group, sort the performance measurements in ascending order based on the number of data points or transactions used to develop the performance measurement result (e.g., service orders, collocation requests, installations, trouble reports).

Exclude the first failures designated as Low up to the number of exclusions provided by the Balanced Exclusion Table. "K" measurements designated as Low, starting with the performance measurement that has the fewest number of underlying data points. If the number of performance measurements in the Low category is less than the number of Exclusions "K", repeat the process next with the Medium category and then the High category until a total number of excluded of "K" performance measurements have been excluded. If all Low, Medium and High measurements are excluded by this process, then no payment is due. ~~those measurements with sample sizes less than 10 may be excluded until "K" measurements are reached. (For example, if the K value is 6 and there are 7 Low measurements, 1 Medium, and 1 High, the 6 Low measurements with the smallest sample sizes are excluded from the calculation of payments to the CLEC.)~~ Non-excluded and The remaining "non-conforming" performance measurements, if any, are used to calculate Tier-1 payments to each CLEC.

The following qualifications apply to the general rule of excluding performance measurements as described above. A performance measurement, for which the payment is on a per measure basis, will not be excluded unless the amount of that measure's payment is less than the payment that would result for each remaining measure. ~~A performance measurement, whose payment is on a per occurrence basis subject to a cap, will be excluded whenever the cap is reached and the payments for the remaining measurements are greater than the amount of the cap.~~

## 8.2 Performance Measurements for which Payment is Per Occurrence:

The following describes the calculation of Tier-1 payments to CLECs in which payment is based upon a per occurrence dollar amount.

### 8.2.1 Performance Measurements that are Averages or Means:

Step 1: For each performance measurement, calculate the average or the mean that would yield the Critical Z-value of 1.65. Use the same denominator as the one used in calculating the Z-statistic for the measure. ~~(For benchmark measurements, use the benchmark value.)~~

Step 2: Calculate the percentage differences between the actual averages and the calculated averages. The calculation is  $\% \text{ diff} = (\text{CLEC result} - \text{Calculated Value}) / \text{Calculated Value}$ .  
~~The percent difference will be capped at a maximum of 100%.<sup>11</sup>~~

Step 3: For each performance measurement, multiply the total number of data points by the percentage calculated in the previous step and the per occurrence dollar amounts taken from the Tier-1 Payment Table to determine the payment to the CLEC for each non-conforming performance measurement.

### 8.2.2 Performance Measurements that are Percentages:

Step 1: For each performance measurement, calculate the percentage that would yield the Critical Z-value of 1.65. Use the same denominator as the one used in calculating the Z statistic for the measure. ~~(For benchmark measurements, use the benchmark value.)~~

Step 2: Calculate the percentage difference between the actual percentages for the CLEC and the calculated percentages. The calculation is  $\% \text{ diff} = (\text{CLEC \% result} - \text{Calculated \% Value}) / \text{Calculated \% Value}$ .

Step 3: For each performance measurement, multiply the total number of data points by the difference in percentage calculated in the previous step and the per occurrence dollar amount taken from the Tier-1 Payment Table to determine the payment to the CLEC for each non-conforming performance measurement.

### 8.2.3 Performance Measurements that are Ratios or Proportions:

Step 1: For each performance measurement, calculate the ratio that would yield the Critical Z-value. Use the same denominator as the one used in calculating the Z-statistic for the measure. ~~(For benchmark measurements, use the benchmark value.)~~

Step 2: Calculate the ~~absolute percentage~~ difference between the actual rate for the CLEC and the calculated rate. The calculation is  $\% \text{ diff} = (\text{CLEC \% rate} - \text{Calculated rate}) / \text{Calculated rate}$ .

Step 3: For each performance measurement, multiply the total number of data points by the difference calculated in the previous step and the per occurrence dollar amount taken from the Tier-1 Payment Table to determine the payment to the CLEC for each non-conforming performance measurement.

**8.3 Performance Measurements for which Payment is Per Measure:** For each performance measurement that Qwest fails to meet the standard, the payment to the CLEC is the dollar amount shown on the "per measure" portion of the Tier-1 Payment Table.

<sup>11</sup> In all calculations of percent differences in sections 8.0 and 9.0, the calculated percent differences is capped at 100%.

## 9.0 Step by Step Calculation of Tier-2 Payments

The following describes step by step the calculation of Tier-2 payments. The calculation will be performed monthly using the aggregate CLEC performance results. All Tier-2 payments will be made to a designated state fund.

Determine the total number of Tier-2 performance measurements<sup>12</sup> that measure the service provided by Qwest to all CLECs for the month in question. From Table 1 in section 5.0, determine the ~~Critical Z-value~~ number of exclusions to be used below.

Identify the Tier-2 performance measurement for which Qwest's service performance is non-conforming for the month in question, using the Critical Z-value of 1.65.

For each performance measurement that is identified as non-conforming, ~~determine if the non-conformance has continued for three consecutive months and if there are at least 10 data points each month. If it has, a Tier 2 payment will be calculated as described below and will continue in each succeeding month until Qwest's performance meets the applicable standard. For example, Tier 2 payments will continue on a "rolling three month" basis, one payment for the average number of occurrences for months 1-3, one payment for the average number of occurrences for months 2-4, one payment for the average number of occurrences for months 3-5, and so forth, until satisfactory performance is established.~~

### 9.1 Performance Measurements for which Payment is Per Occurrence:

The following describes the calculation of Tier-2 payments to the State Fund in which payment is based upon a per occurrence dollar amount.

#### 9.1.1 Performance Measurements that are Averages or Means:

Step 1: Calculate the monthly average or the mean for each performance measurement that would yield the Critical Z-value of 1.65 for each month. Use the same denominator as the one used in calculating the Z-statistic for the measure. (For benchmark measurements, use the benchmark value.)

Step 2: Calculate the percentage difference between the actual averages and the calculated averages for each month. The calculation for parity measurements is  $\% \text{ diff} = (\text{actual average} - \text{calculated average}) / \text{calculated average}$ . ~~The percent difference will be capped at a maximum of 100%.~~

<sup>12</sup> For the purpose of determining the Critical Z-value, each disaggregated category of a performance measurement with a minimum sample size of 10 counts as "one" measure. For instance, a performance measurement that is disaggregated into 10 products, each further disaggregated into two geographic areas would count as "20" measurements.

Step 3: For each performance measurement, multiply the total number of data points each month by the percentage calculated in the previous step. ~~Calculate the average for three months (rounded to the nearest integer) and multiply this result by the per occurrence~~ dollar amount taken from the Tier-2 Payment Table to determine the payment to the State Fund for each non-conforming performance measurement.

#### 9.1.2 Performance Measurements that are Percentages:

Step 1: For each performance measurement, calculate the monthly percentage that would yield the Critical Z-value of 1.65 for each month. Use the same denominator as the one used in calculating the Z-statistic for the measure. (For benchmark measurements, use the benchmark value.)

Step 2: Calculate the percentage difference between the actual percentages and the calculated percentages for each of the three non-conforming measurements. The calculation is % diff = (CLEC % result - Calculated % Value)/Calculated % Value. ~~The calculation for parity measurement is diff = CLEC result - calculated percentage.~~ This formula is applicable where a high value is indicative of poor performance. The formula is reversed where high performance is indicative of good performance.

Step 3: For each performance measurement, multiply the total number of data points for each month by the difference in percentage calculated in the previous step. ~~Calculate the average for three months (rounded to the nearest integer) and multiply this result by the per~~ occurrence dollar amounts taken from the Tier-2 Payment Table to determine the payment to the State Fund for each non-conforming performance measurement.

#### 9.1.3 Performance Measurements that are Ratios or Proportions:

Step 1: For each performance measurement, calculate the ratio that would yield the Critical Z-value of 1.65 for each month. Use the same denominator as the one used in calculating the Z-statistic for the measure. (For benchmark measurements, use the benchmark value.)

Step 2: Calculate the difference between the actual rate for the CLEC and the calculated rate for each month of the non-conforming three-month period. The calculation is % diff = (CLEC % rate - Calculated rate)/Calculated rate. ~~The calculation is diff = (CLEC rate - calculated rate).~~ This formula is applicable where a high value is indicative of poor performance. The formula is reversed where high performance is indicative of good performance.

Step 3: For each performance measurement, multiply the total number of data points by the difference calculated in the previous step for each month. ~~Calculate the average for three months (rounded to the nearest integer) and multiply the result by the per occurrence~~ dollar amounts taken from the Tier-2 Payment Table to determine the payment to the State Fund for each non-conforming performance measurement.

#### 9.2 Performance Measurements that Payment is Per Measure:

For each performance measurement that Qwest fails to meet the standard, the payment to the State Fund is the dollar amount shown on the "per measure" portion of the Tier-2 Payment Table.

### **10.0 Low Volume and Developing Markets**

~~In the event aggregate the monthly volumes of a CLECs participating in the PAP is are more than 10, but less than 100 for an individual measure, Qwest will make Tier-1 payments of a minimum of \$2,500 to the CLECs if during a month Qwest fails to meet the parity or benchmark standard for the qualifying performance sub-measurements listed below. The qualifying sub-measurements are the UNE-P (POTS), megabit resale, and ADSL qualified loop product disaggregation of OP-3, OP-4, OP-5, MR-3, MR-5, MR-7, and MR-8.~~

~~The determination of whether Qwest has met the parity or benchmark standards will be made using aggregate volumes of CLECs participating in the PAP. In the event Qwest does not meet the applicable performance standards, a total payment to affected CLECs will be determined in accordance with the high, medium, low designation for each performance measurement (see Attachment 1) and as described in section 8.0, except that CLEC aggregate volumes will be used. In the event the calculated total payment amount to CLECs is less than \$5,000, a minimum payment of \$5,000 shall be made. The resulting total payment amount to CLECs will be apportioned to the individual affected CLECs based upon each CLEC's relative share of the number of total service misses.~~

~~At the 6-month reviews, the Commission, CLECs, and Qwest will consider adjustments to the minimum payment including the possible exclusion of particular measures or a reduction or increase in the minimum payment amount, adding to the above list of performance sub-measurements new product disaggregation that represents new modes of CLEC entry into developing markets.~~

~~K-value exclusions will not be applied to the performance sub-measurements covered by this section. However, the sub-measurements covered by this section will be included in the determination of the k-values and critical Z-values.~~

~~If the aggregate monthly CLEC volume is greater than 100, the provisions of this section shall not apply to the qualifying performance sub-measurement.~~

### **11.0 Payment**

Payments to CLECs or the State Fund shall be made one month following the due date of the performance measurement report for the month for which payment is being made.

~~Payments to CLECs and will be made via bill credits. To the extent that a monthly payment owed to a CLEC under this PAP exceeds the amount owed to Qwest by the CLEC on a~~



~~monthly bill. Qwest will issue a check or wire transfer to the CLEC in the amount of the overage. Payment to the State Fund will be made via check or wire transfer.~~

## 12.0 Cap on Tier-1 and Tier-2 Payments

There shall be a procedural cap on the total payments by Qwest during a calendar year for each of the 14 states. The cap amounts by state are shown on Attachment 3. The cap represents 44% of the "net revenues," where net revenues are defined in the FCC's order approving the Bell Atlantic-New York 271 application and affirmed in the FCC order approving the Southwest Bell Telephone-Texas 271 application.<sup>13</sup> The procedural cap applies to the aggregate of Tier-1 and Tier-2 payments to CLECs, excluding payments made pursuant to any other alternative performance obligations pursuant to an interconnection agreement with a CLEC and any other payments required by State Commissions pursuant to service quality rules, orders or other agreements that relate to the same or analogous service. If the procedural cap is reached during any consecutive 12 month period Qwest shall, within 30 days, file a petition with the State Commission for an expected hearing showing why it should not be required to pay remedies in excess of the procedural cap. Payments shall be made to escrow during this proceeding.

In the event the annual procedural cap is reached within a calendar year or one-sixth of the cap is reached in a single month and it is determined that poor performance alone is the cause of such payments, Qwest shall cease offering in-region interLATA services to new customers. There shall be a cap on the total payments by Qwest during a calendar year for each of the 14 states. The cap amounts by state are shown on Attachment 3. The cap represent 36% of the "net revenues" as defined in the FCC's order approving the Bell Atlantic-New York 271 application and affirmed in the FCC order approving the Southwest Bell Telephone-Texas 271 application.<sup>14</sup> The cap applies to the aggregate of Tier-1 payments to CLECs, including payments made pursuant to any other alternative performance obligations pursuant to an interconnection agreement with a CLEC, Tier-2 payments to State Funds, and any other payments required by State Commissions pursuant to service quality rules, orders or other agreements that relate to the same or analogous service.

The individual state amounts shown on Attachment 3 were calculated based upon Qwest's 1999 ARMIS results, adjusted to reflect the full annual effect of general rate case orders of the respective state regulatory commissions.

A monthly cap will be determined by dividing the amount of the annual cap by twelve. The monthly cap shall be calculated by applying all payments or credits made by Qwest under this PAP as well as all payments made or credits applied for wholesale service performance pursuant to interconnection agreements, state rules or orders. To the extent in any given month the monthly cap (i.e., the annual cap divided by 12) is not reached, the subsequent month's cap will be increased by an amount equal to the unpaid portion of the previous month's cap. At the end of the year, if the aggregate of all payments for which the cap applies

<sup>13</sup> Federal Communications Commission, CC Docket No. 99-404, Memorandum Opinion and Order, December 22, 1999, Para. 436 and footnote 1332; Federal Communications Commission, CC Docket No. 00-65, Memorandum Opinion and Order, June 30, 2000, Para 424.

<sup>14</sup> Federal Communications Commission, CC Docket No. 99-404, Memorandum Opinion and Order, December 22, 1999, Para. 436 and footnote 1332; Federal Communications Commission, CC Docket No. 00-65, Memorandum Opinion and Order, June 30, 2000, Para 424.

equals or exceeds the annual cap, but Qwest has paid less than that amount due to the monthly cap, Qwest shall be required to pay an amount equal to the annual cap. In such an event, Tier-1 payments shall be paid first on a pro rata basis to CLECs, and any remainder within the annual cap, shall be paid as Tier-2 payments. In the event the total of Tier-1 and Tier-2 payments is less than the annual cap, Qwest shall be obligated to pay only the actual calculated amount of Tier-1 and Tier-2 payments.

In the event the annual cap is reached within a calendar year and Qwest continues to deliver non-conforming performance during the same year to any CLEC or to all CLECs, the Commission may recommend to the FCC that Qwest should cease offering in-region interLATA services to new customers.

### 13.0 Limitations

**13.1** Qwest's PAP shall not become available in a State ~~unless and until approval by the State Commission. The Plan shall be in effect six-months prior to a 271 filing before the FCC approves Qwest's 271 application for that State.~~

**13.2** ~~Qwest shall be liable for Tier-1 or Tier-2 payments to any CLEC offering services in the state using resale, interconnection, or unbundled elements. Qwest will not be liable for Tier-1 or Tier-2 payments to a specific CLEC in an FCC-approved state until the Commission has approved an interconnection agreement between the CLEC and Qwest that adopts the provisions of this PAP.~~

**13.3** ~~Qwest shall not be obligated to make Tier-1 or Tier-2 payments for any measurement if and to the extent that non-conformance for that measurement was the result of any of the following: a Force Majeure event; an act or omission by a CLEC that is contrary to any of its obligations under its interconnection agreement with Qwest or under the Act or State law; or an act or omission by a CLEC that is in bad faith.<sup>15</sup> Qwest will not be excused from Tier-1 or Tier-2 payments on any other grounds, except as described in paragraph 12.7. Qwest will have the burden to demonstrate that its non-conformance with the performance measure was excused on one of the grounds described in this PAP. Qwest shall not be obligated to make Tier-1 or Tier-2 payments for any measurement if and to the extent that non-conformance for that measurement was the result of any of the following: a Force Majeure event; an act or omission by a CLEC that is contrary to any of its obligations under its interconnection agreement with Qwest or under the Act or State law; an act or omission by a CLEC that is in bad faith<sup>16</sup>; or non-Qwest problems associated with third-party systems or equipment, which~~

<sup>15</sup> Examples of bad faith conduct include, but are not limited to: unreasonably holding service orders and/or applications, "dumping" orders or applications in unreasonable large batches, "dumping" orders or applications at or near the close of a business day, on a Friday evening or prior to a holiday, and failing to provide timely forecasts to Qwest for services or facilities when such forecasts are required to reasonably provide services or facilities.

<sup>16</sup> Examples of bad faith conduct include, but are not limited to: unreasonably holding service orders and/or applications, "dumping" orders or applications in unreasonable large batches, "dumping" orders or applications at or near the close of a business day, on a Friday evening or prior to a holiday, and failing to provide timely

could not have been avoided by Qwest in the exercise of reasonable diligence, provided, however, that this third party exclusion will not be raised more than three times within a calendar year. Qwest will not be excused from Tier 1 or Tier 2 payments on any other grounds, except as described in paragraphs 13.6, 13.7, and 13.8. Qwest will have the burden to demonstrate that its non-conformance with the performance measurement was excused on one of the grounds described in this PAP.

~~13.4 Any CLEC accepting this PAP agrees that Qwest's performance with respect to this remedy plan may not be used as an admission against Qwest's interest. Nor may it be used as an admission by Qwest of liability in any legal, regulatory, or other proceeding, used as evidence that Qwest has discriminated in the provision of any facilities or services under Section 251 or 252 or has violated any state or federal law or regulation. Any Qwest conduct underlying the performance measurements and the performance data provided under the performance measurements are not made inadmissible by these terms.~~

~~13.5 By incorporating these liquidated damages terms into the PAP, Qwest and CLECs accepting this PAP agree that proof of damages from any non-conforming performance measurement would be difficult to ascertain and, therefore, liquidated damages are a reasonable approximation of any contractual damages that may result from a non-conforming performance measurement. Qwest and CLEC further agree that payments made pursuant to this PAP are not intended to be a penalty.~~

~~13.6 If a CLEC agreeing to this PAP receives payments or credits pursuant to a Commission rule, order or any other contract with Qwest for the same or analogous wholesale performance covered by this PAP, CLEC agrees to waive any claim to credits or payments under this PAP.~~

~~13.7 Qwest shall not be liable for any Tier 2 payments if Qwest has been assessed or made payments for the same or analogous performance pursuant to any Commission order or service quality rules.~~

13.8 Whenever a Qwest Tier-1 payment to an individual CLEC exceeds \$3 million in a month, or when all CLEC Tier-1 payments in any given month exceed the monthly cap (section 12.0), Qwest may commence a show cause proceeding. Upon timely commencement of the show cause proceeding, Qwest must pay the balance of payments owed in excess of the threshold amount into escrow, to be held by a third party pending the outcome of the show cause proceeding. To invoke these escrow provisions, Qwest must file with the Commission, not later than the due date of the Tier-1 payments, an application to show cause why it should not be required to pay any amount in excess of the procedural threshold. Qwest will have the burden of proof to demonstrate why, under the circumstances, it would be unjust to require it to make the payments in excess of the applicable threshold amount. If Qwest reports non-conforming performance to a CLEC for three consecutive months on 20% or more of the measurements reported to the CLEC and has incurred no more than \$1 million in liability to the CLEC, the CLEC may commence a similar show cause proceeding. In any such proceeding the CLEC will have the burden of proof to demonstrate why, under the

forecasts to Qwest for services or facilities when such forecasts are required to reasonably provide services or facilities.

~~circumstances, justice requires Qwest to make payments in excess of the amount calculated pursuant to the terms of the PAP. Whenever a Qwest Tier 1 payment to an individual CLEC exceeds \$3 million in a month, or when all CLEC Tier 1 payments in any given month exceed the monthly cap (section 11.0), Qwest may commence a show cause proceeding. Upon timely commencement of the show cause proceeding, Qwest must pay the balance of payments owed in excess of the threshold amount into escrow, to be held by a third party pending the outcome of the show cause proceeding. To invoke these escrow provisions, Qwest must file with the Commission, not later than the due date of the Tier 1 payments, an application to show cause why it should not be required to pay any amount in excess of the procedural threshold. Qwest will have the burden of proof to demonstrate why, under the circumstances, it would be unjust to require it to make the payments in excess of the applicable threshold amount. If Qwest reports non-conforming performance to a CLEC for three consecutive months on 20% or more of the measurements reported to the CLEC and has incurred no more than \$1 million in liability to the CLEC, the CLEC may commence a similar show cause proceeding. In any such proceeding the CLEC will have the burden of proof to demonstrate why, under the circumstances, justice requires Qwest to make payments in excess of the amount calculated pursuant to the terms of the PAP.~~

#### 14.0 Reporting

Upon FCC 271 approval for a state, Qwest will provide CLECs whose transactions are monitored by the PAP, ~~which have approved interconnection agreements with Qwest~~ a monthly report of Qwest's performance for the measurements identified in the PAP by the 25th day of the month following the month for which performance results are being reported. In addition to the descriptive statistics for the measures, the report shall include the payment, if any, levied for each individual measures and indicate which measures were excluded by the Balanced Exclusion Table. Qwest will collect, analyze, and report performance data for the measurements listed on Attachment 1 in accordance with the most recent version of the Service Performance Indicator Definitions (PID). Upon a CLEC's request, data files of the CLEC's raw data, or any subset thereof, will be transmitted, without charge, to the CLEC in a mutually acceptable format, protocol, and transmission medium.

Qwest will also provide the Commission a monthly report of aggregate CLEC performance results pursuant to the PAP by the 25th day of the month following the month for which performance results are being reported. Individual CLEC reports will also be available to the Commission upon request. Upon the Commission's request, data files of the CLEC raw data, or any subject thereof, will be transmitted, without charge, to the Commission in a mutually acceptable format, protocol, and transmission form. By accepting this PAP, each CLEC consents to Qwest providing that CLEC's report and raw data to State Commissions upon the Commission's request.

#### 15.0 Reviews

Every six (6) months, Qwest, CLECs, and the Commission shall review the performance measurements to determine whether measurements should be added, deleted, or modified; whether the applicable benchmark standards should be modified or replaced by parity standards; and whether to move a classification of a measure to High, Medium, or Low or Tier-1 to Tier-2. ~~The criterion for reclassification of a measure shall be whether the actual volume of data points was less or greater than anticipated.~~ Criteria for review of performance measurements, other than for possible reclassification, shall be whether there exists an omission or failure to capture intended performance, and whether there is duplication of another measurement. The first six-month period will begin upon the FCC's approval of Qwest's 271 application for that particular state. Any changes to existing performance measurements and this PAP shall be by mutual agreement of the parties.

Qwest will make the PAP available for CLECs ~~interconnection agreements until such time as the Commission finds it no longer necessary. In the event the requirement of Qwest to provide unbundled elements is lifted, the PAP shall be rescinded upon Commission approval. Qwest eliminates its Section 272 affiliate. At that time, the Commission and Qwest shall review the appropriateness of the PAP and whether its continuation is necessary. However, in the event Qwest exits the interLATA market, that State PAP shall be rescinded immediately.~~

#### **16.0 Voluntary Performance Assurance Plan**

~~This plan represents Qwest's voluntary offer to provide performance assurance. Nothing in this plan or in any conclusion of non-conformance of Qwest's service performance with the standards defined in this plan shall be construed to be, of itself, non-conformance with the Act.~~

## Attachment 1: Tier-1 and Tier-2 Performance Measurements

Performance Measurement		Tier-1 Payments			Tier-2 Payments		
		Low	Med	High	Low	Med	High
GATEWAY AVAILABILITY							
Availability of IMA – IMA-GUI	GA-1						X
Gateway Availability – IMA-EDI	GA-2						X
PRE-ORDER/ORDERS							
Pre-Order/Order Response Time	PO-1					X	
LSR Rejection Notice Interval	PO-3	X					
Firm Order Confirmations On Time	PO-5	X				X*	
Billing Completion Notification Timeliness	PO-7	X					
Jeopardy Notice Interval	PO-8	X					
ORDERING AND PROVISIONING							
Calls Answered within Twenty Seconds	OP-2						X
Installation Commitments Met	OP-3			X			X
Installation Intervals	OP-4			X			X
New Service Installation Only	OP-5			X			X
Number Portability Timeliness	OP-8		X			X	
Coordinated Cuts On Time – Unbundled Loops	OP-13a		X			X	
MAINTENANCE AND REPAIR							
Calls Answered within 20 seconds-Interconnect	MR-2						X
Out of Service Cleared within 24 hours	MR-3		X				
All Troubles Cleared within 4 hours	MR-5		X				
Repair Repeat Report Rate	MR-7			X			X
Trouble Rate	MR-8			X			X
Repair Appointments Met	MR-9			X			X
BILLING							
Time to Provide Recorded Usage Records	BI-1	X					
Invoices Delivered within 10 Days	BI-2						X
Billing Accuracy-Adjustments for Errors	BI-3	X					
Billing Completeness	BI-4	X				X	
NETWORK PERFORMANCE							
Trunk Blocking	NI-1			X			X
NXX Code Activation	NP-1			X			X
COLLOCATION							
Installation Interval	CP-1	X					
Installation Commitments Met	CP-2			X			X
Feasibility Study Interval	CP-3	X					
Feasibility Study Commitments Met	CP-4	X					
Quote Interval	CP-5	X					
Quote Commitment Met	CP-6	X					
To Be Determined	---	---	---	---	---	---	---

\* Some PID Sub-Measurements are Tier1 only.

Attachment 2

Performance Measurements Subject to Per Occurrence Payments With a Cap

Pre-Order/Orders

- Pre-Order/Order Response Time – PO-1 (Tier-1/Tier-2)
- LSR Rejection Notice Interval – PO-3 (Tier-1)
- Firm Order Confirmation on Time – PO-5 (some sub-measurements do not have caps)  
(Tier-1/Tier-2)
- Billing Completion Notification Timeliness – PO-7 (Tier-1)

Billing

- Invoices Delivered within 10 Days – BI-2 (Tier-1/Tier-2)
- Billing Accuracy – Adjustments for Errors – BI-3 (Tier-1)
- Billing Completeness – BI-4 (Tier-1/Tier-2)

Network Performance

- Trunk Blocking – NI-1 (Tier-1/Tier-2)

Performance Measurements Subject to Per Measure Payments

Gateway Availability

- Availability of IMA – IMA-GUI – GA-1 (Tier-2)
- Gateway Availability – IMA-EDI – GA-2 (Tier-2)

Ordering & Provisioning

- Calls Answered within Twenty Seconds – OP-2 (Tier-2)

Maintenance & Repair

- Calls Answered within Twenty Seconds – MR-2 (Tier-2)



## Attachment 3

## Annual Cap on Qwest Payments

State (\$ Millions)	1999 ARMIS Net Return	Adjustment for Commission Rate Orders	Annual Cap
Arizona*	260	(59)*	72
Colorado	288	(10)	100
Idaho	68		24
Iowa	85		31
Minnesota	246	(18)	82
Montana	44		16
Nebraska	84		30
New Mexico	89	(10)**	28
North Dakota	35		13
Oregon	132	(32)	36
South Dakota	42		15
Utah	128		46
Washington	225		81
Wyoming	34		13
Total Qwest			588

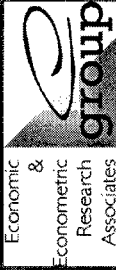
Attachment 3 Annual Cap on Qwest Payments (millions)		
State	1999 ARMIS Net Return	Annual Procedural Cap
Arizona*	260	114
Colorado	288	126
Idaho	68	30
Iowa	85	37
Minnesota	246	108
Montana	44	20
Nebraska	84	37
New Mexico	89	39
North Dakota	35	15
Oregon	132	58
South Dakota	42	18
Utah	128	56
Washington	225	99
Wyoming	34	15
Total Qwest	1,760	772

\* The Arizona adjustment reflects Commission's represcription Decision No. 62507, Docket No. T-01051B-97-0689. Docket No. T-01051B-99-105 is the general rate case in which revenue recover of the increased depreciation expense is at issue. Upon final order in the rate case, the annual cap will be revised to reflect the offsetting revenues.

\*\* The New Mexico adjustment reflects the New Mexico Commission's interim rate order in Docket No. 3007. Permanent rates will be set in Docket No. 3008 and will be reflected in this adjustment when rates are final.



## **EXHIBIT 4**



# K Table Worksheet

Created for public use by George Ford (Z-Tel Communications) and John D. Jackson (Egroup Associates)

K TABLE FROM TX PERFORMANCE PLAN					
Measures	Low		Critical Z	1-Cumulative Distribution	
	Bound	K Value			
1	1	0	1.65	0.049	
2	2	0	1.96	0.049	
3	3	0	2.12	0.050	
4	4	0	2.23	0.051	
5	5	0	2.32	0.050	
6	6	0	2.39	0.049	
7	7	0	2.44	0.050	
8	8	1	1.69	0.048	
9	9	1	1.74	0.050	
10-19	10	1	1.79	0.050	
20-29	20	2	1.73	0.049	
30-39	30	3	1.68	0.049	
40-49	40	3	1.81	0.051	
50-59	50	4	1.75	0.049	
60-69	60	5	1.70	0.051	
70-79	70	6	1.68	0.044	
80-89	80	6	1.74	0.046	
90-99	90	7	1.71	0.043	
100-109	100	8	1.68	0.043	
110-119	110	9	1.70	0.025	
120-139	120	10	1.72	0.014	
140-159	140	12	1.68	0.014	
160-179	160	13	1.69	0.015	
180-199	180	14	1.70	0.015	
200-219	200	17	1.70	0.004	
250-299	250	20	1.70	0.004	
300-399	300	26	1.70	0.000	
400-499	400	32	1.70	0.001	
500-599	500	38	1.72	0.000	
600-699	600	44	1.72	0.000	
700-799	700	49	1.73	0.000	
800-899	800	55	1.75	0.000	
900-999	900	60	1.77	0.000	

RECOMPUTED VALUES FOR K-TABLE					
Measures	Low		Critical Z	1-Cumulative Distribution	
	Bound	K Value			
1	1	0	1.64	0.051	
2	2	0	1.95	0.051	
3	3	0	2.12	0.050	
4	4	0	2.23	0.051	
5	5	0	2.32	0.050	
6	6	0	2.39	0.049	
7	7	0	2.44	0.050	
8	8	1	1.68	0.050	
9	9	1	1.74	0.050	
10-19	10	1	1.79	0.050	
20-29	20	2	1.73	0.049	
30-39	30	3	1.68	0.049	
40-49	40	3	1.81	0.051	
50-59	50	4	1.75	0.049	
60-69	60	5	1.70	0.051	
70-79	70	6	1.67	0.048	
80-89	80	6	1.73	0.050	
90-99	90	7	1.70	0.048	
100-109	100	8	1.67	0.048	
110-119	110	8	1.71	0.052	
120-139	120	9	1.69	0.048	
140-159	140	10	1.70	0.049	
160-179	160	12	1.66	0.048	
180-199	180	13	1.67	0.049	
200-219	200	14	1.68	0.048	
250-299	250	17	1.67	0.053	
300-399	300	20	1.67	0.051	
400-499	400	26	1.66	0.054	
500-599	500	32	1.66	0.047	
600-699	600	38	1.65	0.053	
700-799	700	43	1.66	0.050	
800-899	800	49	1.65	0.057	
900-999	900	54	1.66	0.049	

K Table was recomputed by George Ford. Goal was to get probability as close to 0.05 as possible.

## **EXHIBIT 5**

### Balanced Exclusion Table

T = Number of Statistical Tests Performed (excluding benchmarks).

F = Number of Observed Test Failures ( $z > 1.65$ )

N = Average CLEC Sample Size for All Metrics or Potentially Excluded Metrics

Number of Tests	Parity-Null Critical Value	Expected Type I Failures	Exclusions		
			F < K	F > K	
				N ≤ 1,450	N > 1,450
10	2	0	0	0	0
20	3	1	1	0	$1 \times (1 - F/T)$
30	4	1	1	0	$1 \times (1 - F/T)$
40	4	2	2	0	$2 \times (1 - F/T)$
50	5	2	2	0	$2 \times (1 - F/T)$
60	6	3	3	0	$3 \times (1 - F/T)$
70	7	3	3	0	$3 \times (1 - F/T)$
80	7	4	4	0	$4 \times (1 - F/T)$
90	8	4	4	0	$4 \times (1 - F/T)$
100	9	5	5	0	$5 \times (1 - F/T)$
110	9	5	5	0	$5 \times (1 - F/T)$
120	10	6	6	0	$6 \times (1 - F/T)$
130	11	6	6	0	$6 \times (1 - F/T)$
140	11	7	7	0	$7 \times (1 - F/T)$
150	12	7	7	0	$7 \times (1 - F/T)$
160	13	8	8	0	$8 \times (1 - F/T)$
170	13	8	8	0	$8 \times (1 - F/T)$
180	14	9	9	0	$9 \times (1 - F/T)$
190	15	9	9	0	$9 \times (1 - F/T)$
200	15	10	10	0	$10 \times (1 - F/T)$
250	18	12	12	0	$12 \times (1 - F/T)$
300	21	15	15	0	$15 \times (1 - F/T)$
350	24	17	17	0	$17 \times (1 - F/T)$
400	27	20	20	0	$20 \times (1 - F/T)$
450	30	22	22	0	$22 \times (1 - F/T)$
500	33	25	25	0	$25 \times (1 - F/T)$
550	36	27	27	0	$27 \times (1 - F/T)$
600	39	30	30	0	$30 \times (1 - F/T)$
650	42	32	32	0	$32 \times (1 - F/T)$
700	45	35	35	0	$35 \times (1 - F/T)$
750	48	37	37	0	$37 \times (1 - F/T)$
800	50	40	40	0	$40 \times (1 - F/T)$
850	53	42	42	0	$42 \times (1 - F/T)$
900	56	45	45	0	$45 \times (1 - F/T)$
950	59	47	47	0	$47 \times (1 - F/T)$
1000	62	50	50	0	$50 \times (1 - F/T)$

Directions: Compute the number of tests performed (T). Compute the number of test failed (F) based on a critical value of 1.65 (or -1.65). Compare the number of failed tests to the K value. If  $F < K$ , then the null hypothesis of parity service is accepted and  $\alpha T$  exclusions are provided the ILEC (the expected number of Type I failures). If  $F > K$ , then the null hypothesis of parity service is rejected and the exclusions are adjusted to account for Type II error. If the average sample size for the CLEC is less than or equal to 1,450, then no measures are excluded because Type II error exceeds Type I error. For average CLEC sample sizes greater than 1,450, Type II error is small enough to ignore. However, the exclusions should be adjusted by the percent of passed tests ( $1 - F/T$ ).



For recommendations on improving the model or repairing errors, please contact me at the email address above or by phone at 813-233-4630.

**VERSION DATED: January 17, 2001**

**CHANGES:**

- 1.(1/16/01) The 1/11/2001 MOD-TX Sheet was altered to correct for a problem with the penalty ranking algorithm related to exclusions.

### CERTIFICATE OF SERVICE

I, Charles M. Hines III, hereby certify that a true and correct copy of the foregoing **“Comments on Remaining Issues Regarding the Performance Plan in Arizona; AZ Docket No. T-00000A-97-0238”** was delivered by overnight delivery or first-class mail this 29<sup>th</sup> day of January, 2001 to the individuals on the following list:

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A handwritten signature in black ink, appearing to read "Charles M. Hines III", written over a horizontal line.

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